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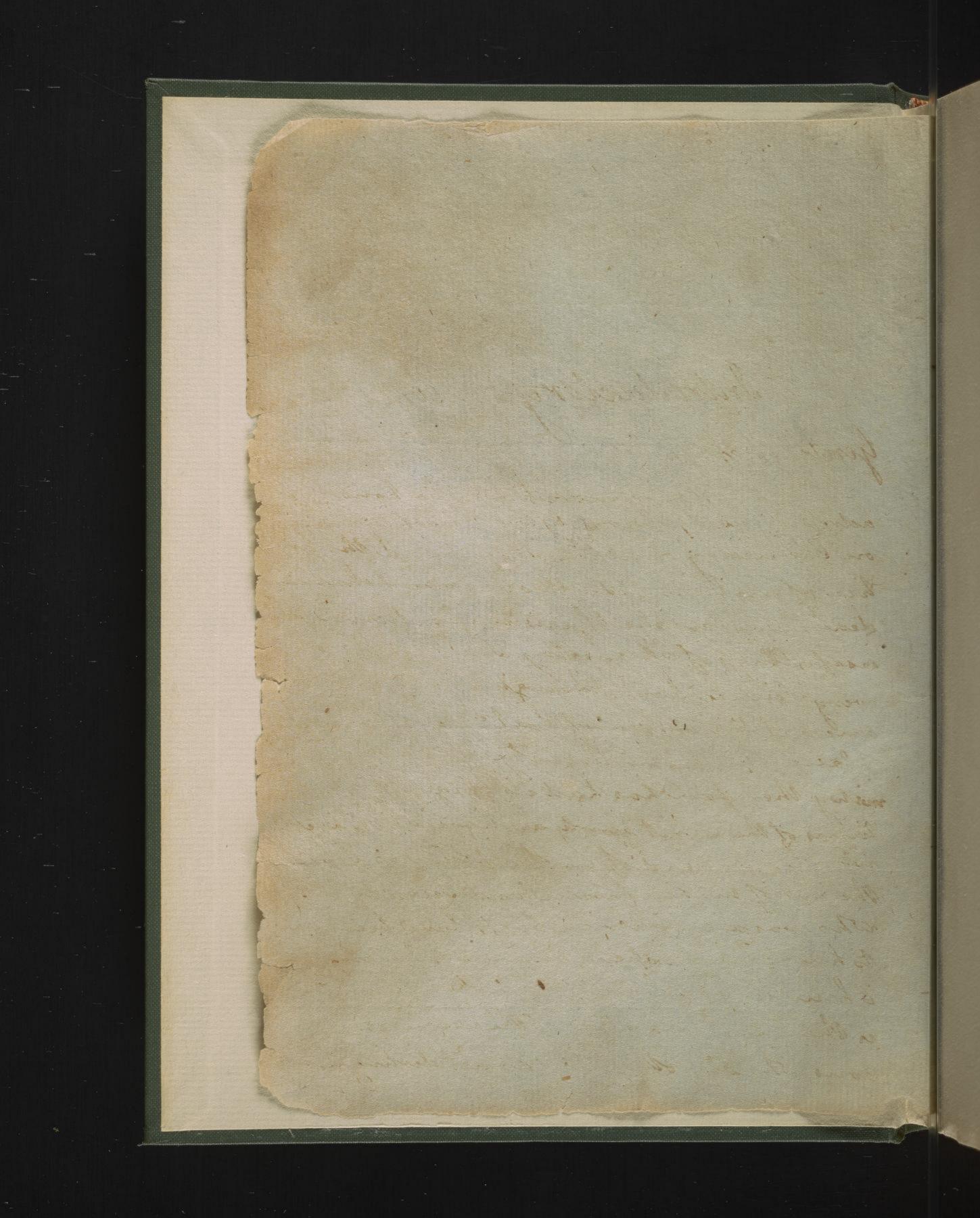
Edgar Fahs Smith

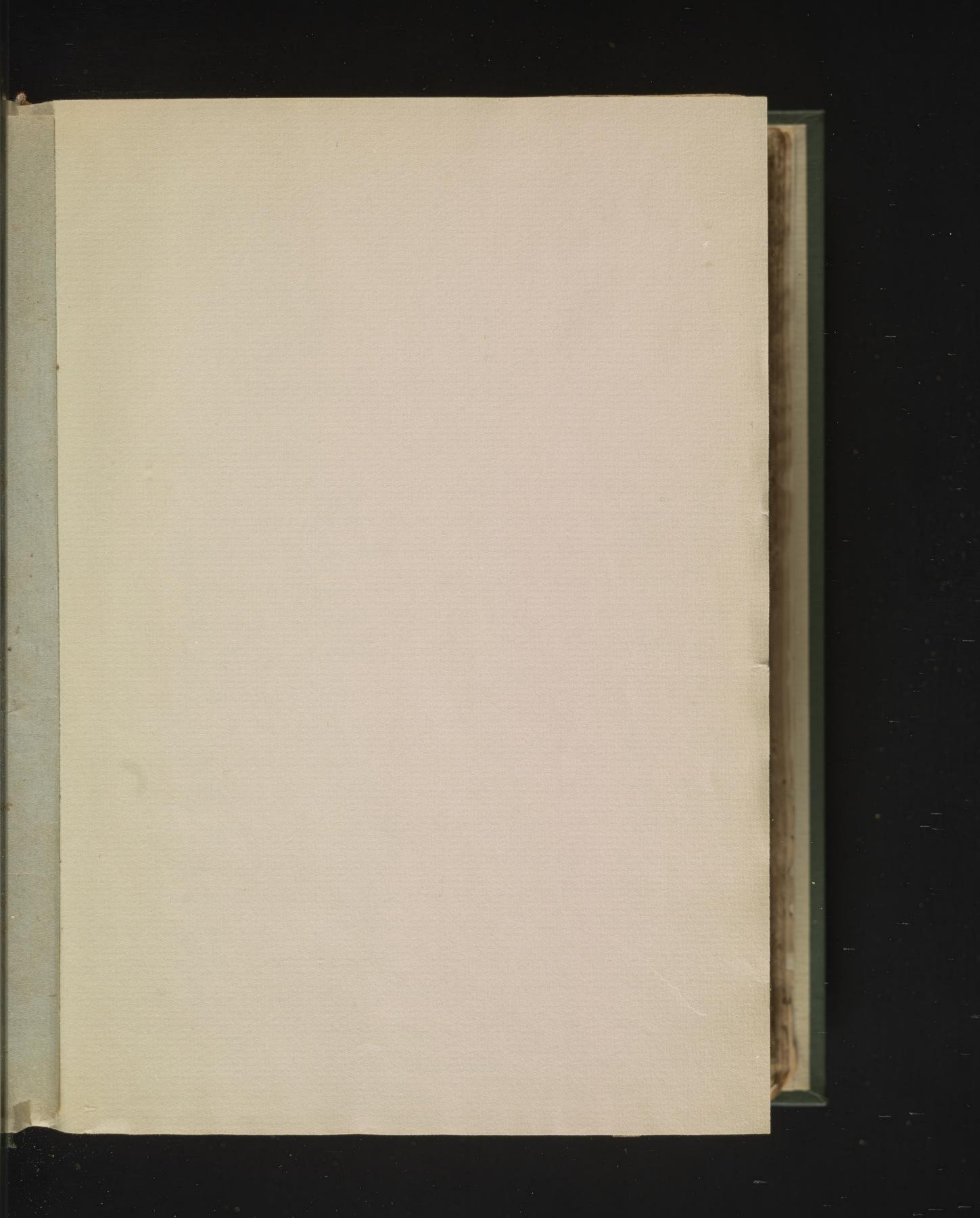
Memorial Collection

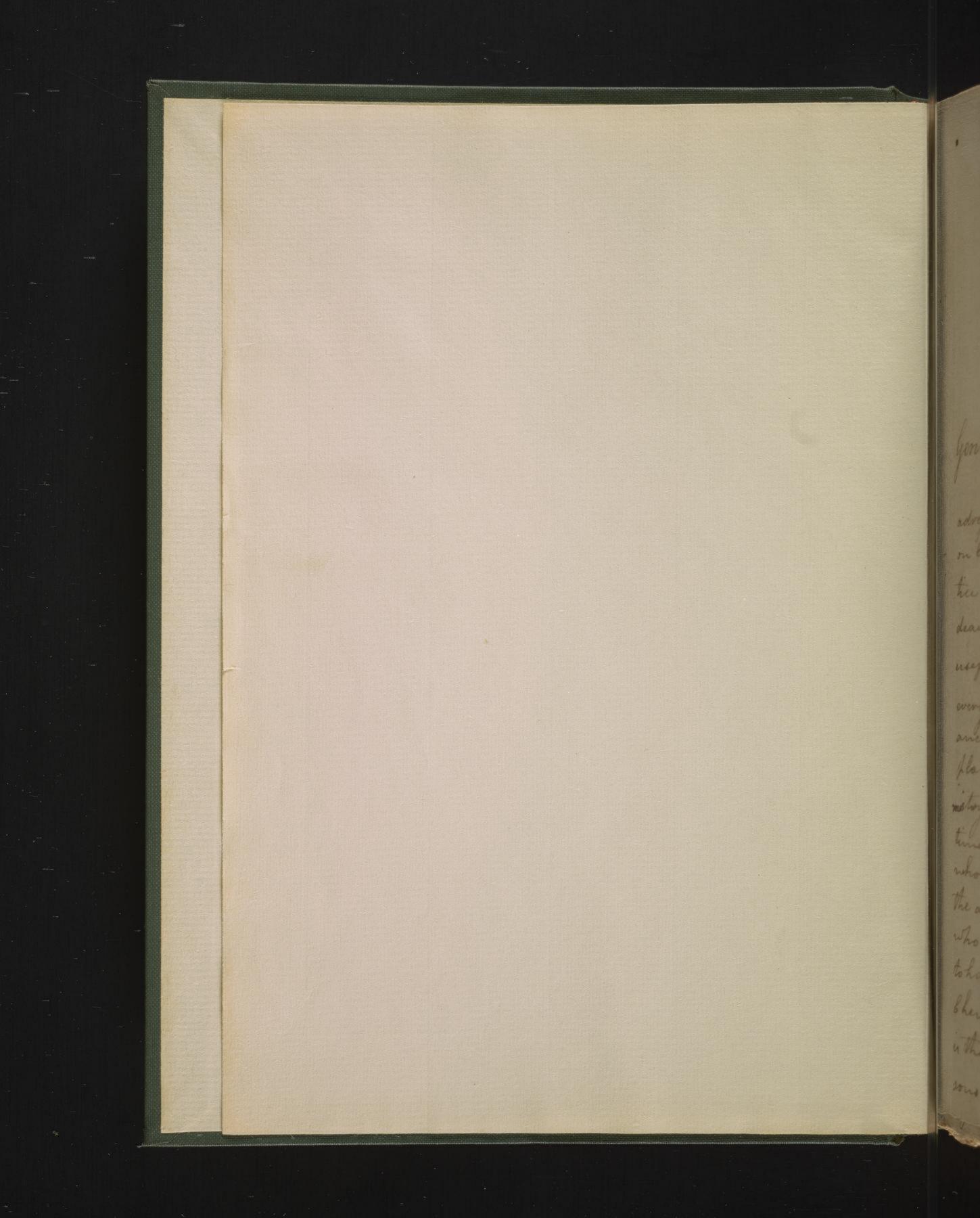
University of Pennsylvania

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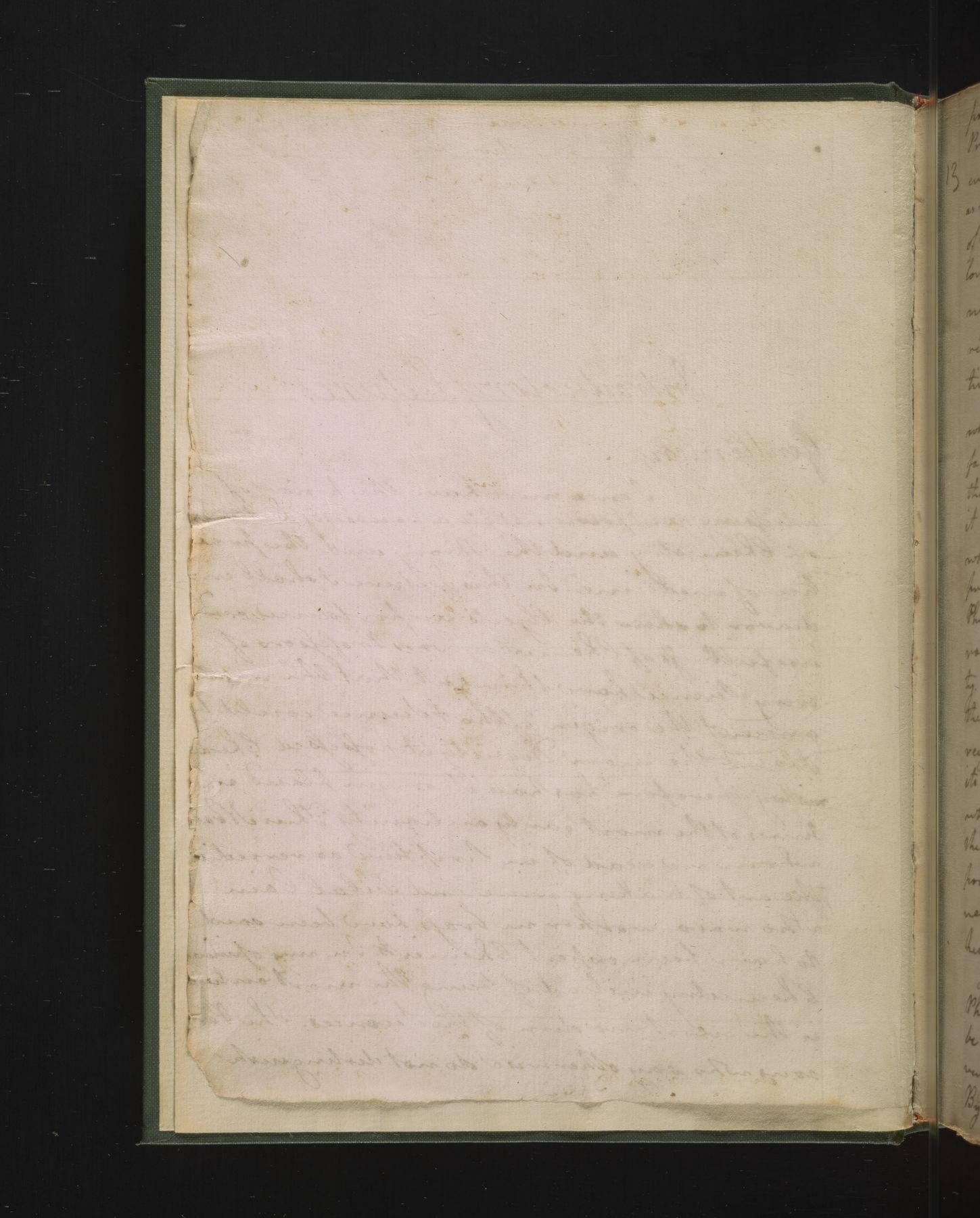
Benjamin Rush. Lectures on Chamistry the Theory & Practice of Medicine' (Manuscript)







and & the trons Introductory Lecture! botton Gentlemen, advelsing you previously to a bourse of Lettieres hear on Chemistry and the Theory and the prais he he of medecine. In this Leture I shall en val deavor to show the Phyerts unportource and gene ensefulthelp of Chemistry The Professors of with every Science have thought that the most with ancient the origin of that Swence could be plant placed the more Begnety it professed Chers. mestay therefore has had its origin blaced in which times of the most early antiquity. Thus Noals com whom we read of in Serif ture as versed it mon the art of making wine and Tulat bain leitig who was a worther in brafs how been said to the to how been expert 6 hemists. In my opinion old being the most autient led in the most autient will in the most autient of the deconces. The Peril fluid in the most modern of the deconces. The Peril fluid sons who say otherwise do not distinguish 12 to



properly between the Bractice of an art and this Principles of a Science. But being a modern Sie end by in nowise detroits from its Dignity, for as Love Bacon observes, those duences which and of the most use to Mankend have required the longest time for their formation; thus Matrons may Navigation and Electricity were not reduced to first principles untill moderne The barth and every bounfround substen which lies his in its Bowels or is exposed on its sur face! The waters and whatever is contained in them, the air and all mothers dispersed thro it, are the objects of Chemistry; from hence appear what an extensive Suemed it is. Here it will be proper to make the difference between natural Philosophy and Chemistry. The first tweats of the gene not properties of Boolies as Shecific Gravety, Solide ty, Elasticity de? whilst the latter only treate of Their partienlar properties qualities. Thus with regard to air: The Natural Philosopher explain ets transparency, elastrety weight, bulk &c. whilet the Chewlest endeavors to determine whis Ther it is a compound or sumple Body, facour from what and its constituent Parts in what man ner there parts one united, and lostly the Effection heat and mesture report. A Knowledge of Chemestry is of great en to the Phinologist it is absolutely necessary he should be acquainted with it for without the can get very lettle insight into the nother of animal flies By an acquartance with it his enabled to

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discover, that the important process of digestion in the Stomock is partly A least convied on by achemical Process. Some light is also thrown our Territion by the same means. It must be numery bered however that the Daws which offly to the action of dead matter whom dead metter cons not be opplied but with considerable restrict two to the action of manimate on amusti Booles. This was not attended to when Chemistry was first made use of to explain the function of the animal mochine, here it was frequents ly applied in a very unbounded and urgude nous manner to account for Phænomena in the arrenal System which and produced by causes totally merphiable upon Chemiol Principles. But a mond intimate knowledge of the duemed nervoved the false offluctions of D. The Mechanical Philosophy when first we two during to account for them phainomens was und in the same unlimited injudicion manner, but from the same course it is at present applied with considerable restriction and course quently with mond propriety. He and still un sequented with the course of arrival head of we would render this cours of parent it would throw hight on many appearances which ours in the annual Oconomy which are now en ? timely conceoled from no. Chemestry as well herdofter he made to oppear; tends most evident

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= by to the disc losund of this Phae nome now. This die ence is also opplied with the greatest advantages to Pathology; thus by a knowledge of it we may be led into to the proper method of investigating the causes of diseases and the mounter in which the potentia noventes, as they are colled, produce their morbed effects in the human body. Hand me not reason to conclude that the contagious marine ta exert their malignord enforcement whom the blood by exceting a species of fermenta hor in il An intunate knowledge of chemistry is osholutely necessary for the Physician for Migno. vout of it he would be very aft to preseribe dif benent medeunes at the same time which might decompose each other and render the composit how mant or by their action on each other they might produce new court ounds entirely different Inour thon the presenter expects, partiales by the new arrangement of harts which takes place they may generate intestances of very noverous qualities. We have moron to believe What the munal kungdom som tains an antidote to every de seone with which the human body is hade to be affected. Thus tartar Emetic is found to be a certain cund in most stages of fever when exhelited in contain the of theres disonotors and in proper done at the ingliany intervals of time? The veneral disease hat just · "courge of unlawful embrous, baffiled the

otteny THE THE REPORT OF THE PARTY AND THE PROPERTY OF THE PARTY until nista to pref the reach of the second of books are a second of the second of the second of the same of the sa both. And the world the the state of manufactured to the second of the first the second of the Ud to and the real weeks are the course (see the great the core day to the the res The contract of the second of lath. the section of the second seco unes her markers as the transmission of the second state of theref the terminal and the second se moun would Marine Marine Marine and the same of olid m description to the man will a large to be seen when manufactured by the same of th with a the state of the state of the same of the The second of th unst The Distance of the state of the service of the ser the second secon not in and the same of th to every de consider the which the in a le la la affected. The were contract that was contract And the Albert and Phin i comme of certainfied our ensus bangered

attempt of the most emment Thronwars to cure it untill merenny was discovered to be its certain outedote. It is by bhemestry that we are tought to prepared there and other meneral substances so as to be fitted to enter the human body. It is by the Apristance of this Sevener that we line end Hed to get rabutary medecines from substances the most porsonous. Some persons unagene Mat the regetable Kingdom contained medic unes fully capable of removing all discous & thereford that then is no necessity for having recourse to Mumeral Kingdom But I would hig leave to ask those gentlemen did not the same almighty hand; which plan ted the Roppy and endued the henrion Book with its wonderful quolities, infusion medi unal vertue un to thow mbstances which on humed in the Bowelo of the Earth. I do not mean to infer that Golemial medicing propels no realing properties; on the contrary Thinh they are endured with considerable very valuable vertices; but 6 hemistry is still applicable hand as scarcely any vegetable con be prepared for medicinal un without thous This receive also explains the doctornes of Deat and bold herewit is forther useful to the Phincian as by its means he can excertain that qualities of the blumate in which he hows. The Knowledge of these qualities is absolutely necessary

attended of the man ever ever the three ename to ever el nerell news of a war discommend to be the contra Leave the Manual Commence for and where the same of the same and the same of the walle the same of the account of the state of the same of the same of and the second of the second o houthy for and roll of the man and a second and the later who will be Think 6 ma fro the the way has a construct the process STATE OF THE PARTY Description of were Heimy

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necessary to the Phisician who is engaged in Practice as many diseases take their origin from a suddens Change in then qualities & all discous and much effected according to the state of the blumate in which they hoppen. Inom a knowledge of those By a Knowledge of Chemistry Phrownound and sometimes enabled to discover the causes of discoves which Morwin would have remained from them. Thus Dr Baker by henry versed in this Suenewhor methy fully overtained the rand of the Devon shine bolie. This cause he just by says is Byder imprognated with lead used in that bountry This Liquor becomes this impregnated by news mg from the Prefs thro woolen Pepes and dus muse its hopoge by its audity depolving he Is thesenetal dome years ago the people of thistory dam were much afflicted for several oniceeding thatumes with a sheeier of bolic nesculling that of Tevoushine. It was descovered by a Phincian that this discon was orianound by the un of the water unpregnated with Lead Decongectioned What the water received this in prignation from the Leaves of the true which grow before almost every hours, during the Antum falling on the Roofs of the houses ell which were at that time made of head! Then have by laying there would femment

effected secondamy the said stude of the order and orane bocker which comes as generally sanger so linguist and and expected and cook asset in that down to I no home the those harden there as a die many its happened by who according defationed has the The cologians years are the hall the of dans in a musch apple had for more forming theterms with a sheein of dole more leng To serve of the water water good at the your hefer almost any harred decement the tuturing falling on the Morger Williams was at the Athense exercised as Then deaded by laying them winder from my

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and thus form a venegor which would corrode the head and be worked down by the muceding rouse which water was und in That by the unhalis tanto. His conjections has been fully verified for more that time the leader vools have been removed and Teles made use of, and the boling is now very seldom heard of Chemistry is of the greatest service to the Metale horgists Iwould have extend the meaning of Matal : lungry forther than is commonly done I Iwould omprehend under it every spanation which is performed on metalo by any artist who tever The Alchament, hower to son show the bowels of the Borth to dissover a melistance inhabite of converting the boser metals into Gold. They foiled however in all their attempts. They never would have allemented it at all if they had one considered that Gold is only valuable on account of its ocarceness; and therefore ifthey had oneceded in producing this change they would have defeated the purpos for which they underwent such great lohor; i.e. their amolument would have been very little indeed they however much emproved If the dimits of this diction would hermit Metallurgray.

dand they for my at the word out which wondered Min ver 2 mury o 10 februty he hymre ing had some coated in proceeding coming ne the ha Porul would have the fact the her have had an receive armed allower their anolument would have bleece little underde they have now in each in formand If the delimite of this distance would promine molled I hand to have descint whom the underlands

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of Chemistry to the bruner, the baker, the Eyer, the Josh boiler, the Bleachen the varnesher, the hour. to and the worker in blay from the maker of parte to the folmeator of the most common earther word. It is also renviesable to the natural Philosoph from a knowledge of it our illustrious bountry. neer & Foranklin has been enabled to direover that thurder and lightning one not owing to the netrous and in the our butone entirely own to cound by the action of Electricity From what has been raid it is opposent that a knowledge of Chemistry should not be confirm red to the Phisuan but that it is severeble to many ortests and that it ments the offention of every gentleman who wishes to complete a liberal Education. — I cannot refrain from congrabe lating you when I consider that you one bloud in such a vort feeld for the exercise of Geneus, abounding so blentifully in the mototoner which one the objects of bymestry. Thus freezons stones of all hunds one found, on the hands of the Ohio; Clay mitable to the making I Porcelain and for enamel in the Belaroand stately Lead and boffer in Pennsylvania and Inon 60=1 halt Sumabar and even notice Mercing in is Man Janny. When we consider this would it be presentable on in wome one of us to expect to have his named enrolled with that of a bulloword Black?

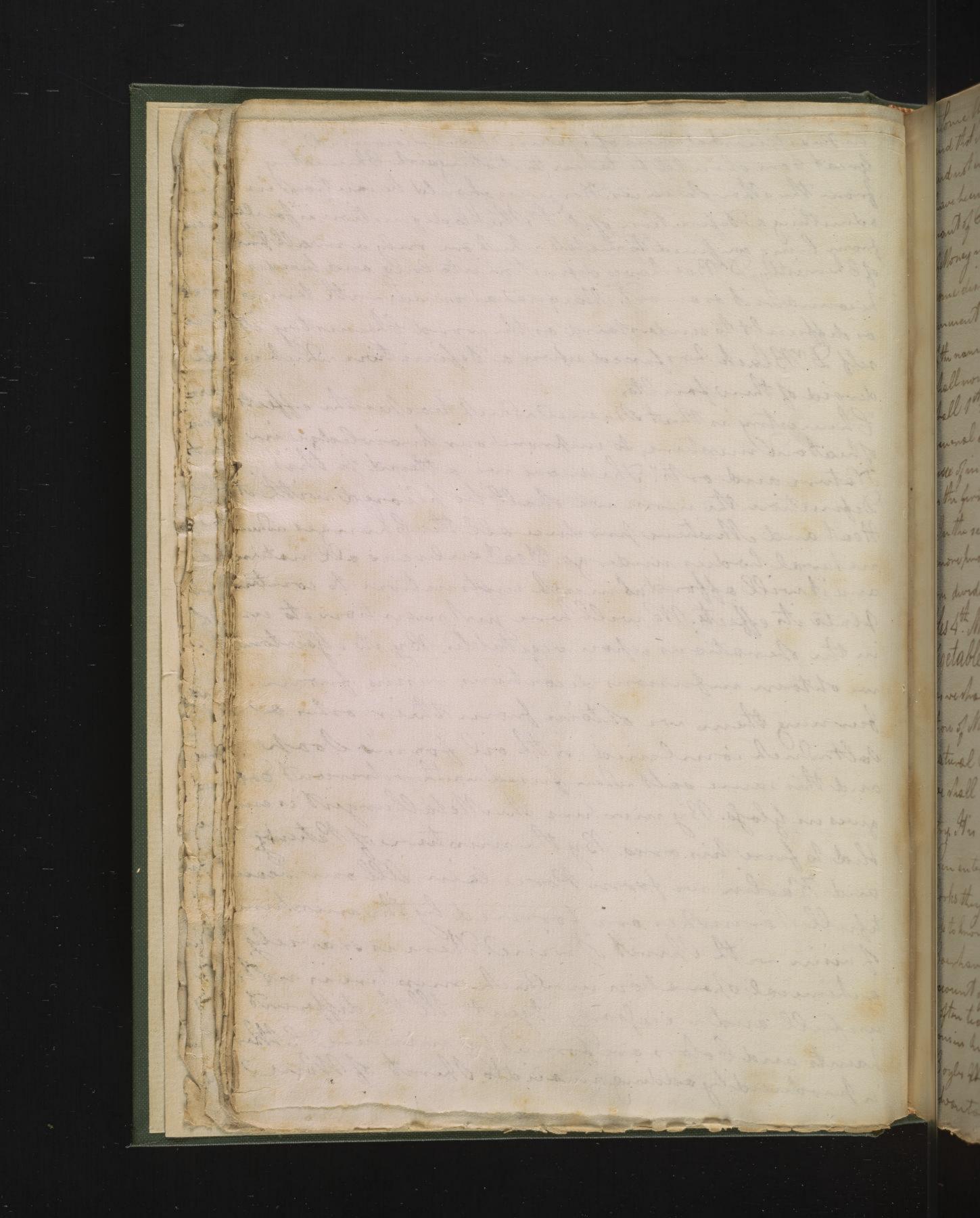
ses sout round to box nd Hom a greec, b heavance ande the Mer me a brupers halth the warde otherle atin of German futory of whit Pa harracter. our rug a furt de is opinio Med hydy in himme Moyle.

In our Introductory Lecture we pointed out the Uses and Importance of Chemistry. At present we shall proceed to say something of its origin. This Seien was rocked in its bradle in Egypt and from thence travelled into grece. and Rome? Moses we read mixed Gold with water and from hence we conclude he had some Knowledge of Chemistry. In Greec Chemistry made some Progress but as it was entire by confined to preests it made les advancement than it would otherwise have done? In Rome it first made its Appearance as a regular Sevened. At this time the Alchemust made their Appearance who aimed as conventing the haver metals into gold which coming to the knowledge of The Emperor Livelesson he published on & diet which hat a stop to their attempts fearing if they succeeded by aninform Wealth they might be mabled to rebel against him. Wout the 10 Bentuny Chimestry verived in Avalua and Armen na wrote whom alchemy. From trabia chemistry with the other Quenus travelled Westward and first field his to Jeal in Spain from this Mot it made its new of appearance in Germany. This Bountry is Lecularly adopted for its in provement as it abounds with Mines. Boerhard gives a long Hutory of Persons who cultivated the Screme in this Boling try, but Paracelons appears to be the first, worthy of our notice Parocelous appears to he a very singular and extruording Character and distinguished above all Chemists. Beforethin Galen reigned the Tynant in the Schools of Physick? Paroul. me first desputed and colled in question his doctrine. His opinions the Afirst thought bold finally overthinged thow of Golden. Soon after the Death of Portacelows Chemis try made its offerance in England and particularly ches withed by Lord Verrelan who was the first who wnote whom This Suemilin that bountry, his works are in genious and deservedly valued. Toon offin him officered the celebrated MrBoyle who did more derow to themestry than all the the

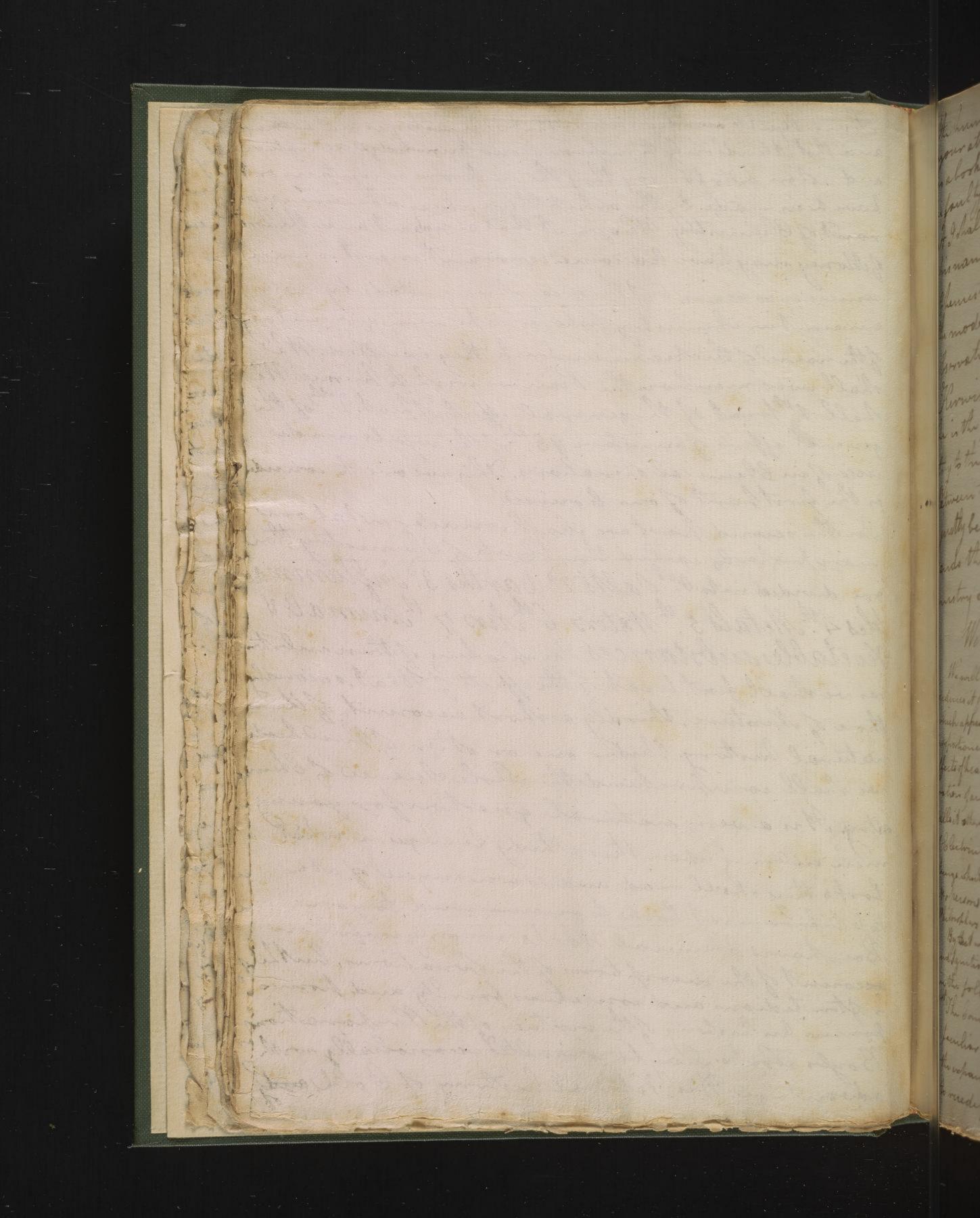
with a complete the form of the party of the to get the country and the country to any the sent the se Homeson Arisd a the time emus un Ama "Fran n buyla are love appeared to be a record decreased the water and a second Elisian the coast decitions marked where all their form mer properties the object on the other stay the property n ama majoreo consection from them of man Enten ounde Dunf murer Thors that leved before him to he was born in easy Beverunstend ces it was in his power to improve the Juence very much by en ploying a great Vimler of ortists in his dervice. It was amon Sorrest saysenty and tentiness and his writings are in a plain early style. He received nothing conceoled nothing but things which he had received under a Promise of Seevery, or which he thought would be detremental to the Commenty of dwalged. In some boses he was nother too inedulous: Inshable of deceiving others, he magned no one would deceive him. He exposed the abstrace Philosophy of thow doys Demoroured entirely from faits and declared that he lion = ed more frequenting the shops of the therefrom all the Books he ever need. The works of Boson and Boyle. spread a denin of this knowledge all over burshe . Whout This time the Royal Philosophy Jociety was first formed of London. This example was tollowed by men of General in other Countries. In Germany I tanthe Hoffman, Kunckel and Maryraaf Shone as Chemit In France Geoffroy, Lemeny, Macquer, Ronelle by In rengland 6 hemestry made but little progress. It has lately neverved them. Modernin spread a starte forist among some heople of the first want. His for thelow Thurst bournered of arts shews how much the arts may be unfinamed by Chemistry. In Prently and the Hon ble Mr Cavendish have collected facti. To De Bull len and Block we one particularly undelted for omanging there facts. In Black dereves to be consider ed as the father of Chemistry and first tought of a regulor during. We shall thro this course con nder it in this light. MB oyle woundered it or Winter hove consolered it as an ont and the comhounders of Mede unes have been valled Chemit and unproperly as they one no more Chemests than the Brewer or the Baken. He is only on orthit who but in

Vature! and a series of sime and a series of the ser and a second second and the second estano stival nd it wo late it the of roller nd this wes us by Man Laboratory ld to fr full 1 lunia whener refiell moder

in Practice what men of Juence have discovered. Great bom should be taken to distinguish Chimestry from the other Surences. Here we should be controllin admitting a Definition of it. In Hable definition in faulty from hing confined to metals which one only a mirall fort he counted it or on ort. Margner abounds with terms or difficult to understand or the word Chemestry its self DMBlack hosfixed whom a Definition which is devoid of thew four lto. "Themestry is that Decened which teacher the effects of heat ond meature, to improve our knowledge in Noture and orti. The more we attend to this. Definition the more we shall be pleased with it Heat and Michine produce all the Changes which netural hodies under go. Heat enlivers all nating and it will offordus much motnution to conting plate its effects. We will have just mon trow its use in the Senations whom vegetables. By its elfourtome we obtom infusions decortions, nins, from ourning them we obtoin from their order a solt which combined in the oil for me Soah and this same solt when fund with vibrarient book gives us Gloss. By mixtum the Metallunger is en blid to fure his ones. By the mother of Petrentz and Kaohn we form Porce law. All our hear tifull Normsher one formed by the muchine of wein with thirt of wine. There is seawely a humid openation in which amertune is not usefull and necessary tracet. All the different haints and bolom one formed by misture? & the is proplered by adding an acidto Shirt of Wine



Some Object to our definition that I hemestry is not a secure and that I lends only to infrave our knowledge in notion and not in outs, for way they the unprome ments in onthe have been made by the ortists themselves who were against nout of Chemistry. We grant hat accedent and the dove Elloney may have led some egnovant ment to metel some disroveries, but the greatest were made by men emment in chemistry I who he haps were ignorant only of the name of the Science in South they excelled. Wes shall now mention the Han we wish to hume? We shall 1 threat of the general effects of hat. 2. of the general effects of mixture & 3. Tof the veforts mode user of m Chemical openations. This we one to country or the first hart of our bourse In the second hart we shall counder what one more properly colled the Objects of Chemistry thon on divided into N. Salts, 2. Earths, 3. Inflamma Hes 4th Metals 5. th Waters 6 th Airs 7 th Animal & Vegetable substances. In sheaking of then melester ces verhall fint brot of the effects of Heat, secondly thou of Musture, theredly a short account of their natural history. That one or other of the Shew heads we shall comfire heard the whole Sevenes of Blens estry. His a very notival question for young. men entering whom this Study to enquire what Looks they shall nead and Jown myself of ato loss to know what books to meanmend to your. Boerhavis Chemical Works amonly unful on occount of the deerif tions of the sperations, buther in often tedious and sometimes fourty and home Boyles Horks Lay be consulted occosiolisely with advantage. His Natural history of Gold, and,



the human blood and of precious Stones are worth your attention. Margners Elements of Bhemistry is a book that should be in all your hands, but he infaulty in hourt of Cystems of sorry our Its roy A I shall frequently have oreanion to mention his name only to hourt out his errors. Fourcroys Chemistry is a unfull works. Hone burde all the modern discoveries you will find some you Iservations on natural history. Kirwins Mineralogy may also be woundtid, he is the first writer who has brought Chemis; try to the ord of Natural history. The womention between these Sevences is very great, and it has justly been observed, that, where notural history ands there Chemistry begins and when Clear mistry ends the Phincion begins. We come now to treat of Heat We will not pretend to theount for the bause of it. Lord Baion deduces it from the motion frection and perculsion of Bodies which appears probable, but it is not true, as heat is by no means proportioned to motion and motion well not explain all the effects of head. Others derive it from the brunnlows motion or or or brotion of an eloste fluid in the proves of boolies. For Isaac Noroton calls it other from which he also explains the Phoenomeno of Electricity, magnetism and growthe tron There and some things which tend to prove and others to regute this notion. Philosophars By theat we mean the power of exerting Expansion, Flaidity, Vapor and Ignition in boolies. The Daws of the Communication of het in on the following 1st The Communication of heat is common to all bodies and Leculiar to none always tending to an equilibrium. This stems the expansive homes of head which is always endeavoury to mede from the bentes.

A CONTRACTOR OF THE PARTY OF TH better. meters. * Instruction is mesta I to do love by magnetion or or the man of the or the same depends

2nd The Communication of head requires some time and defferent times for different hodies Two bodies of the same quantity and quality of matter, but different in shaful low or receive hat in proportion to their Surfaces. The longer the surfaces on the Quicker one they offected by heat on bold. Thus a small thete tribe will grad not or cool sooner than a langer, as the former contours a greater surface in foroportion to the Quantity Than the better. Thus also a gold deaf well be much roomer offertid by head or Gold than a gold Shhand Erible contoining the some grantity of matter. We shall show this law to be of of pheatron hessafter shenve come to shak of Thomas 4. Two hodies of the same metter and formit but different in quantity head and cool in proportion to their dismeters 5. Heat pastes out of bodies quicker in proportion Show that Layers on fewert-6th Heat is communicated to hodier quicker or slower in proportion to the Country nety of houts. Thus head will the communicated from one bule to another queher than from one of home to another or then latter have but on I hourt of Boutset. 7. Infous and bulks being given they leave lose and received heat in proportion to their quality. Whot this quality this is we know not Muse hen brock supposes this to be owing to the density of booker, but he is mestable, as this will not always hold good . It is more probable that the property of conducting heat depends refron some on hevent quality of the body; then are conductors and non bonductors of heat as well or of Electmenty. Metals one good Bon ductors of both. Wood conducts heat slowly, hence the proposity of wooder boundles to reforels fore = quently exposed to the fine. We one not certain while is the low oudnetor of heat water or air butit is pobable woter is, as hoolies cool much soones

there are not the form of a war about the head come to one of the teacher of a Maria on a give directions of a orth. The ord condition hand should has priety of woodern observables the welfeld mind the will him the house the state of it the half we will be to have to will be the half it is apartally work of an enclosed continued of a

in water than in oir, Instead if there one is ony non Conductor of heat it is very heat may herholiste only communicated by the belongeneous particles in the aturo phend there we have another anology between head and Electricity, Wool Freathors de archon wondered tons of Electricity and they transmit head very Now ? ly hence the proposety of using woollen blooth in the wenter, hence shother whility of the Procher of the Germans in sleeping render a feather hed which saves a yout expense and weight of hed bloothes. From the melabances heepino us worm we on oft to mogene they one worm in themselves, but There is not the cow as they will heep bodies cool. This deer friend from helting in runner by wrothing it in hoy Olnaw woollen bloths ond In homeson generally leved with some wone shongy ontitance dight shongy tooker confine the head or do not conductit of hostily. Hence we wether moron they more controllectes so med to newder the soil festile, for by confung the hat of the earth it needers it not and brother Upon this occount it of hears to be a were from viron fareture in cold countries to primite visetation during the wenter deoror. Were in Rufure and debena report me String. away of the mow we frequently find the Grown covered with verdund. Were we not to call this meto our ofsestance I would spheor hands dox that in Bonado vegetation your on much foster than in Pennyvania. For the chows folling in November beforethe seven frostil hvenbeth corth from being offerted by the

the same of the sa He the walk of the last of the the desiration of the state of explained and warmed were the delinaters to Shiel Comes and my hour Stand good and there is Appending the second will be a second of the second the confine on the continue of to everythe the and the salety for the continues the he someth it wanders it was Whom this souround it oblice is to be a sour from Mersey in therefore sind Tales oldps are surager on the found the spread Brand The source 1 Donaldon were allowing weed one waster Bernaginsonis Jane 1. the service services

severe from the know fall which does not hap hen till garriany. The frequent name hem also contro but to young the frost me to the booth. The borth was is frequently three feet and on half deep and on the you of the mountain which had a North west topeet in the late cold winter it was found progen six feet. Inch a defith of frost es never known in banada. Henre as soon as the Unon is melted away the couth is so soft those those the Hustroman beguns to blough uninedicte = by which he cannot do have tell the frost so ords of the Ground. This Eleanowny of mature is very heartfull and desenver our attention. I otun seems or provident of the onimals or Softhe south in cold Bountines. The former she clothes with a not mon substance or fund and the latter with a downy blanket of mone When we sheak of none hodies herry bad condu tons of head we mean nom which hodees and not fluids. The color of the booker have a commetered blinglemen in the communication of heat thus white is a had wonder tor of heat. I has been wiphoned that the moroundry of the Lairs Told people grows white in to depend the least of the nobler fourties by preventing the heat from hing corred off. We have also ono the instance of the bond which mature to his of orienalin weld bountries. Those mich in the worms one covered with hour oud new a evening of wool when taken to the older nyeon; thou of a darker bolor berown

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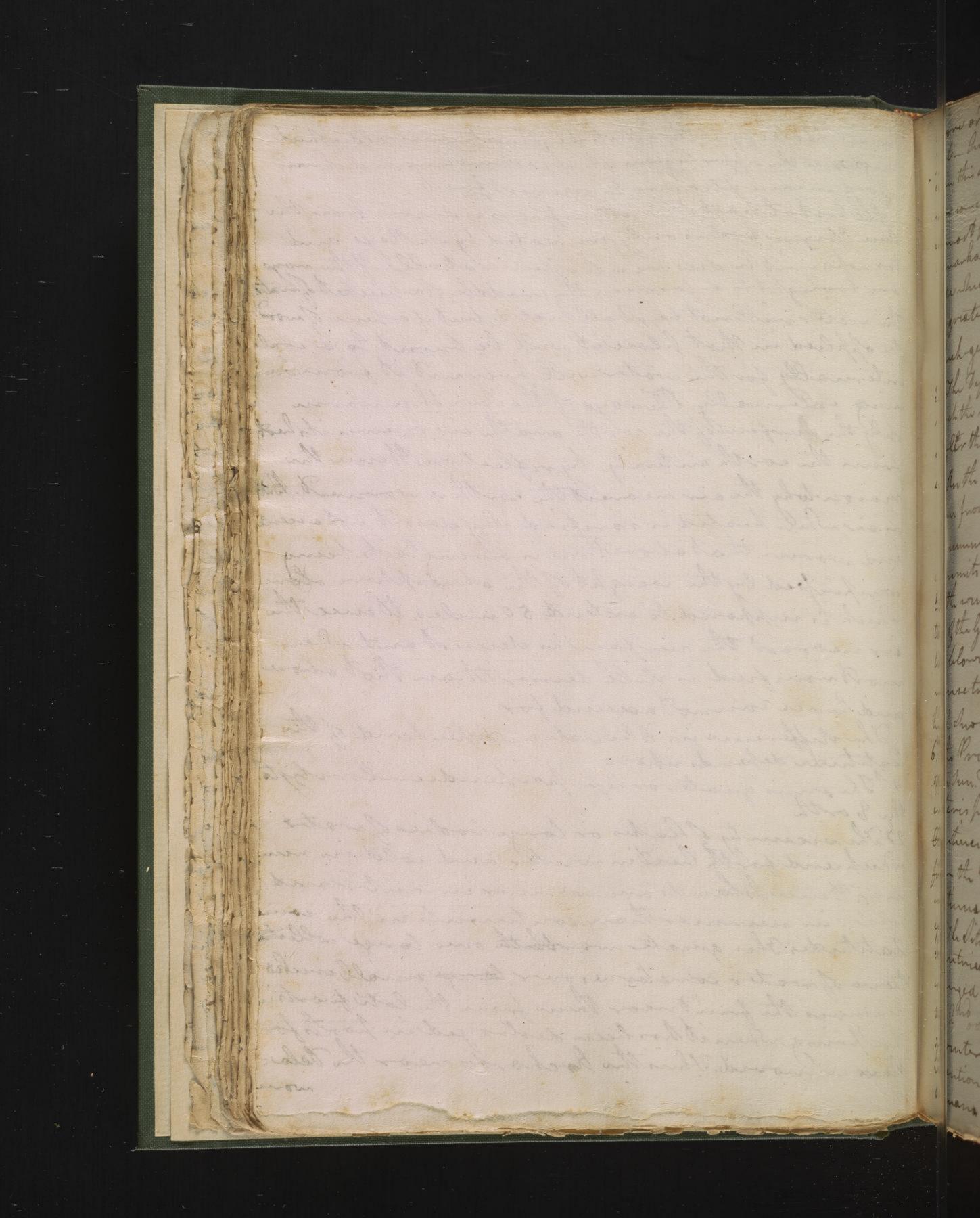
white & Heat has always an irrendable tendency to fly upwonds. Thing is exemplified by tolding the hand over a hold onous and in a clear our ohing day you may see it oriending. This does not loke place in voerso when the heat is equally diffused . bold has a contrary tendency as may be observed in Dec and other Bold bodies woling bodies below There more thorn thois about This must be owing to the bolder our being constended and descending, hence also roclors hereve the change of tembenotion or they opproved the Loud from thois being is oblid by the Dee whom the Lound and falling down whom the Sea. Hence vale budenomons who make a very voyage fair health should be confully to been thurnbuer or werch confused or hopelle from The spensor, to enomone their Blother and to undevery the means of owording the this bold when they approach the show. From this wirning solve the following Phoenon hended in the open vir in a cold night Ibwill weigh wound rolly left in the morning. me Ounce of Dwwell thus brigarently lon a Grache and some times two Inochus in the course of a night. The moron of this is that the the sermon he wold the dee is still more so. The therefore in contact with the de will from the first Law inhand to heat to it and melsides and its place will be nepplied by a frush grantity which is wormer. This will render go the some charge and the Consequence will be a dimensition

Hotton floyed mal or u 212° Betehrter degrel. Duann I heavy y place il dahes " ipion Les Vicashin 1 ye col THE NA " titude in without W Luci

of the wee of the del by heart being melted by the head communested from the sir, this desoning occursion formed by observing that if the I winstead of being out for ded is laid whom the Ground no such dimenution takes places as in this case the colder air cound subside and leave voon for wormer as to supply its place to the Bottom of Bodes Leats them so oner than when off hed to the surface. From water transmitting hat equally it is employed for heating other bodies and is called Balmeren Marroe or morro. Water never receives a head greating Than 212, Hence M'Lewis recommends Mercury to be substituted in the blace of water which receiving arguete er degree of heat well act as a more universal solvent But I samot think it would arrend or it too dense and heavy and in large prouges from the your going they required and from the evaporation which toher place it would be very expensive. From this troumulation of heat longe to dies of water preserve nearly the same degree of heat in every state of the throughherd. From this bevernstance some of our dup dates and never progen in the colded wenters or the wormer water from he low onnes and sleppes the blow of the cold water on the chenface which hung rondensed muke. Here Land whisted wear longe collection of water is never so rold in writer in account the sand in the same Latitude which is more remote. Thus the cold in great Britain which instructed between the 50 and 60 degrees of M. Latitude is oconely ever so gnot or in Pennyhorania as the former is at entirely surround did with nate. Il Luestion home meturally arrives why air is not

I hove in thirth.

in all bloces equally offerted? The actuance cold which neights in the upper regions is truly estones hing and it well offord mane pleasure to ochour for it. All her to the of the attimosphere is devived from the Our. Opaque booker only one heated by its Mays and transparent hodies one und offerted at all. If the mays one tronght to a foreign the middle of a bricket of water the water well not be at all heated, but if a here of wood he opplied in that blace it will be bring to a wall internally for the water will prevent it fromber ming externally. The mays of the chen their warm obly the Surface of the earth and the oir receives its hed from the corth antiny, by reflection. Here the morow body the air neavest the earth is worness. But I or our when heated is novified why does it not eventy and worm that above? this is owing to its being compressed by the weight of the about sphere about which is supposed to extend 50 miles. Weree the in nearest the surface is densist and when mod nonfred is still denser thou that about and hence cannot secund for. The oliffeneur in blumste independend of the Latitude dehends whom 4. The sums quater or less partendiculority to 27 The vicinity of habes or longe bodies of water which rend forth head in winter and cold in new mer. Hence Islands an wormer in outer and cololes in number than continents in the come Latitude. This queater worthath over longe collected tions of water some times over longs small enciks Amount the fruit mear them from the lot fronts in the Spring when it has been derlooged in horts for Nexx removed. Thus the anchords near the Belo:



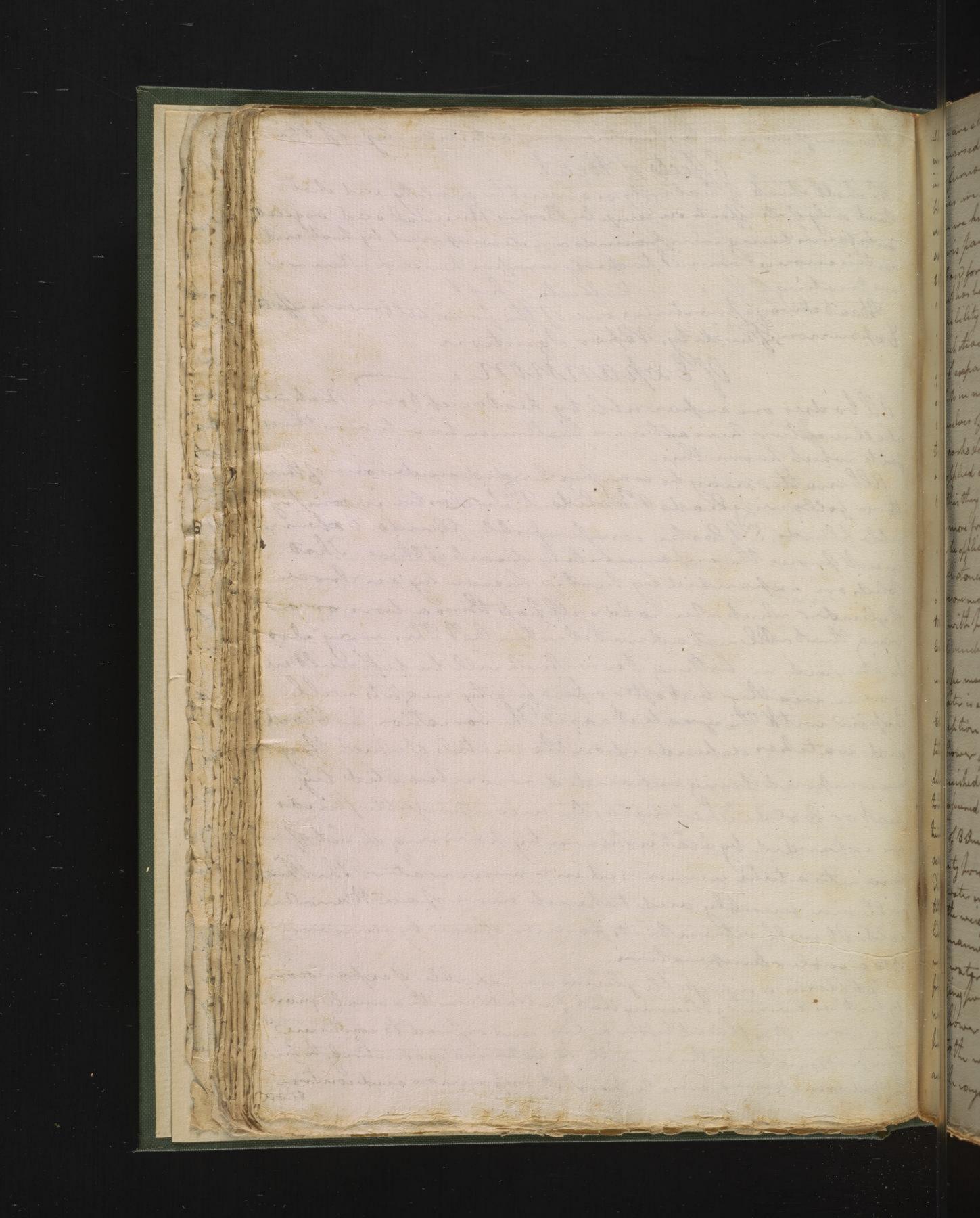
word one within a mile of it one reldom knownito fail - In the opening 1779 the fruit was you enally distroys ed in this and the ming blowing states except when growing near some water. On the Shows of the Oclawone it avos memarkable on the Jerry than on the Benny havia in greater quantity that way by this Monard which generally prevailed 3. y The Difference in the quality of the doil whom which the noys fall. Thus a story rocky roll is cooler than a randy one 4th an the Contiguity of Mountain which owners them from the winds in writer and woll the our in unmer from the more and coldings on the 5. 4the winds blowing from the different quore tens of the Globe. Thus the S.M. wind in this cours try blowing ower the brogen Dehes and anima hense trout of boutinent covered with herfet had know is exceedingly cold. 69 the Presence of Clouds obstructing the Roys of the Jun. Hem in another moron why Dolands exteris porchis on cooler in mummer thouse Boutanents from the flying blonds orming from the Estaporation of the adjoining ocean continually Lovering over them 4. Ith dithation and take of Butters in adjount countries. The Blumote of Italy has been much hanged muce the time of tydaties. Honou in the 2 mode of his first hook sheets of the homono I writer or if he humself had felt them Juvenol Romans youth of hicking holes into the die & after

& dea 6 his ar les ent March u vertst " Edmit retor. Mtch The & call

wands blunging into the Tiber Inauchters tell us offere sent Madib is coundered as an indraordinary unum stance to see mon on the fround after 100 Block in the norming and the Teher has not been frozen there many years. What ran this thange he owing to Homen of interbuted to the enimon of interesting in Itally treff. The wil of Haly is more much the rome or it was two thousand years ago and indeed many whots which we know in the time of try isters to have been fruitfull Gardens one now overed with woods and others neuvin now in the rame netrotion or formerly. It opposes there to defend whom the Bullivation of the Bonne tries to the northword of Italy and harhenlorly of Germany which in the time of otriguestur was to tally inventivated. This effect bullwation produces by absorbing the morther of the Earth and then preventing evolvonotion Such produces Bold The dumention of water hears on exort proportion to the degree of bulewation. Thus, in Pennsyvorie the Omehs and Mill finds have been much Eferried some cultivation has been environed and round wills which formerly went the whole year mon will go but our months and other formerly value able estates have from this dimenution been con mertidento home. His probable that a charage of Elimeter mulor to that which Holy hos undergone will take place in this modelle states. They more having change hos almody hoppened. Portunity will reverbelieve that a wood for formed on the In of the over Delawood from one state to another and wor used for many weeks by borninges and that and or wor wooded on the frozen vive to Such thousands were sheteton and some hundred hortook of its

foods lender an w 1 twate 5 who Nor6 1 Inhan 1" linin 1 L. It w a sool down

We now proceed to sheak, more portionly of the Effects of Heat. We shall sheak of headonly or a much be quality and shall Such only of its effects on simple Boolies. Annual and vegelally substances hering comprounds and decomposed by heat and on this account one not properly comprehended when we one trueting of the general effects of head Heat always problemes one of the four following effects Expansion, Thirdity, Vapor, Igustion 46xpansion. All bodies one expansible by heatexue to one whehere shall mention herrafter we shall mention two or three faits which prove this. All mother may be some for hunded under one of thing three following Leads I Solids. I'm helostic incompret nole fluids 30 glastie compresente fluids. Extens ments prove the expansibility of each of there. That Polish on expanded by hustis shewn by an drown Eylunder Shuch when cold will pop thing a bon or a ving that all not admit it when hot. This may also he observed in holting Doors Shichwell be defliculted worm weather but ofter a few frosty nights will John with the greatest eon. The vonation in Blocks and watches depends whom the metals of which they mompoind being exhauded or contracted by hat or Gold. The Amelosti incomfingsible fluids an exhauded by heat in heron by houring him of wire into a tribe unmarred in warm water. The Mind will nin sensibly and take up mon show thank cold. It will return to its former show by removing it to a cooler temponature. by heat we leave, by observing that if a bladde with a small quans thy of awin it is placed before a fire and suffered to continue. then for some time the oir will be expanded soos entirely to fell it and sometimes even to bunt it Expansion and contraction



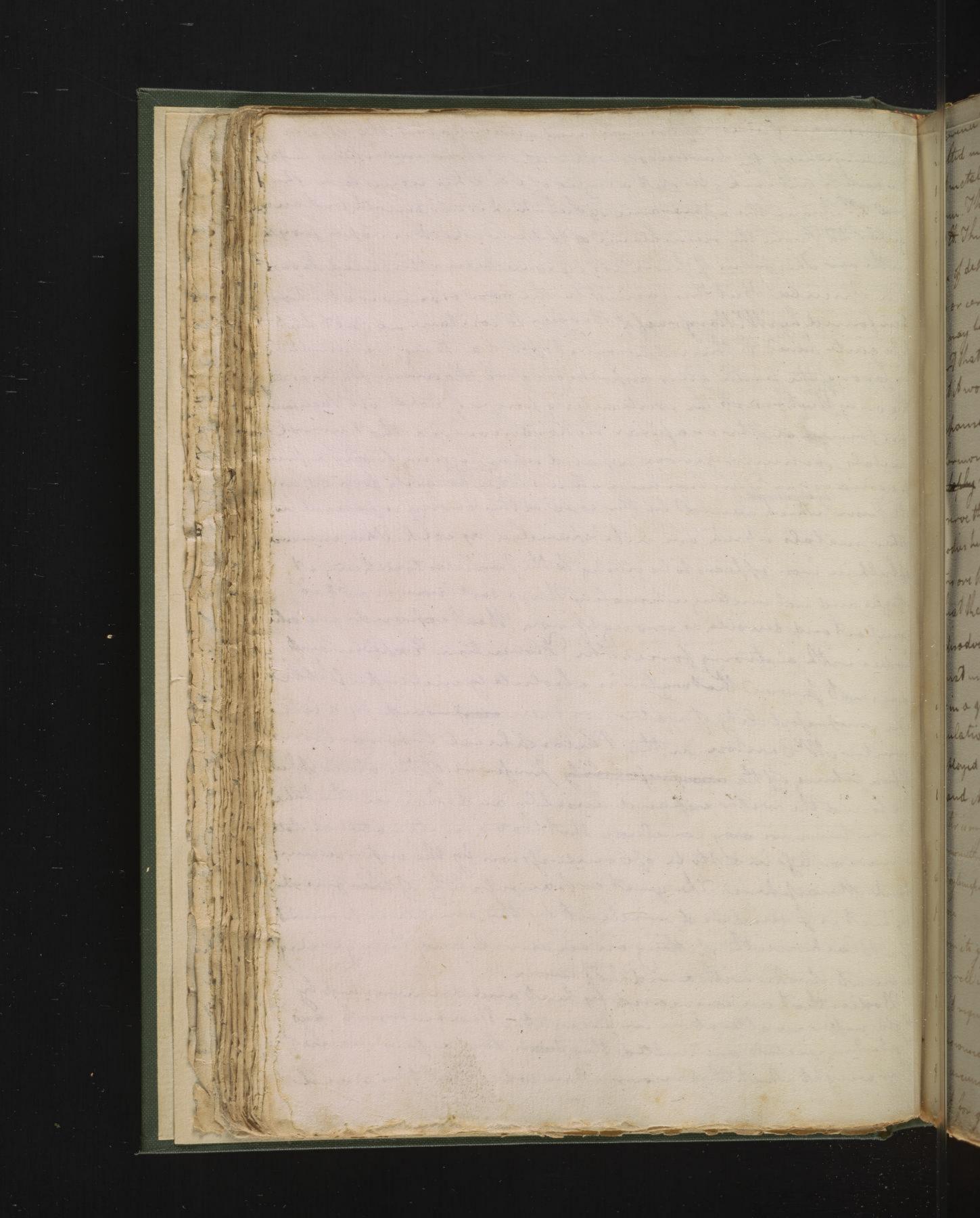
tion are always consequences of hear and bold. If I mon is unnersed into Inow it is remotered much less & if heated in a furnow it becomes much larger than before. Different hodies are differently expanded by heat what this depends whom we know not in general we find the denned bodies exteris parrous expanded low. This however is not always the bow for some metals expand more than gloß. The instru ment has been made for measuring the different degrees of exe fransibility in defenent bodies, called a Pyrometer. By this a French thadensecion horronstructed a table of the deforment des que of expoundably in deflerent bodies. This may be uniful to artisto in making me machines. Jome ortests have availed Themselves of their experiments. Hence in making large bring tuls cooks de the Smith heats the more hoops ned hos before they one offlied and in this bondition buts them on the vefuls By this they apply more for why closely and compress the vela selmone fruity than from bry mechanical form that can be opplied to The same thing is proclised in making the will otones which one commonly colled & renen burs. Then on made of a number of small stones comented togic ther with plaister of paris. The hook contracting on growing bold renders the Burs mon compail thanthy would other win he mode. Water is almost the only hody in nature which is on & rechtion to our general Rule and new to the contract tile hower of Bold. This fluid is notter evenend thou diminished in bulk when converted into de. In order of to be ofrend of this ford Mr Boyle hut some water with andron tube of B Inches in drameter and on it frut a weight of seventy hounds and then exhored it to an interne cold The water worms roomer frager than it was so enlarged that the weight bloved about was nound considerably. In like manner Motonygens bonst a bannon by filling it with water and then exposed to a degree of bold below the freezing hours, producing this mughty effect by the cropon ine hower of Bold on the water. Monochen brouch your = butes the weight overcome to be equal to 27700 hounds and he rougo that the water energeous to in bulk.

The transfer of the same the secretaria petersia consumer and a secretaria Believe in distriction and me if you or My Maryers land in July to Alpertale Commenced and are the party being

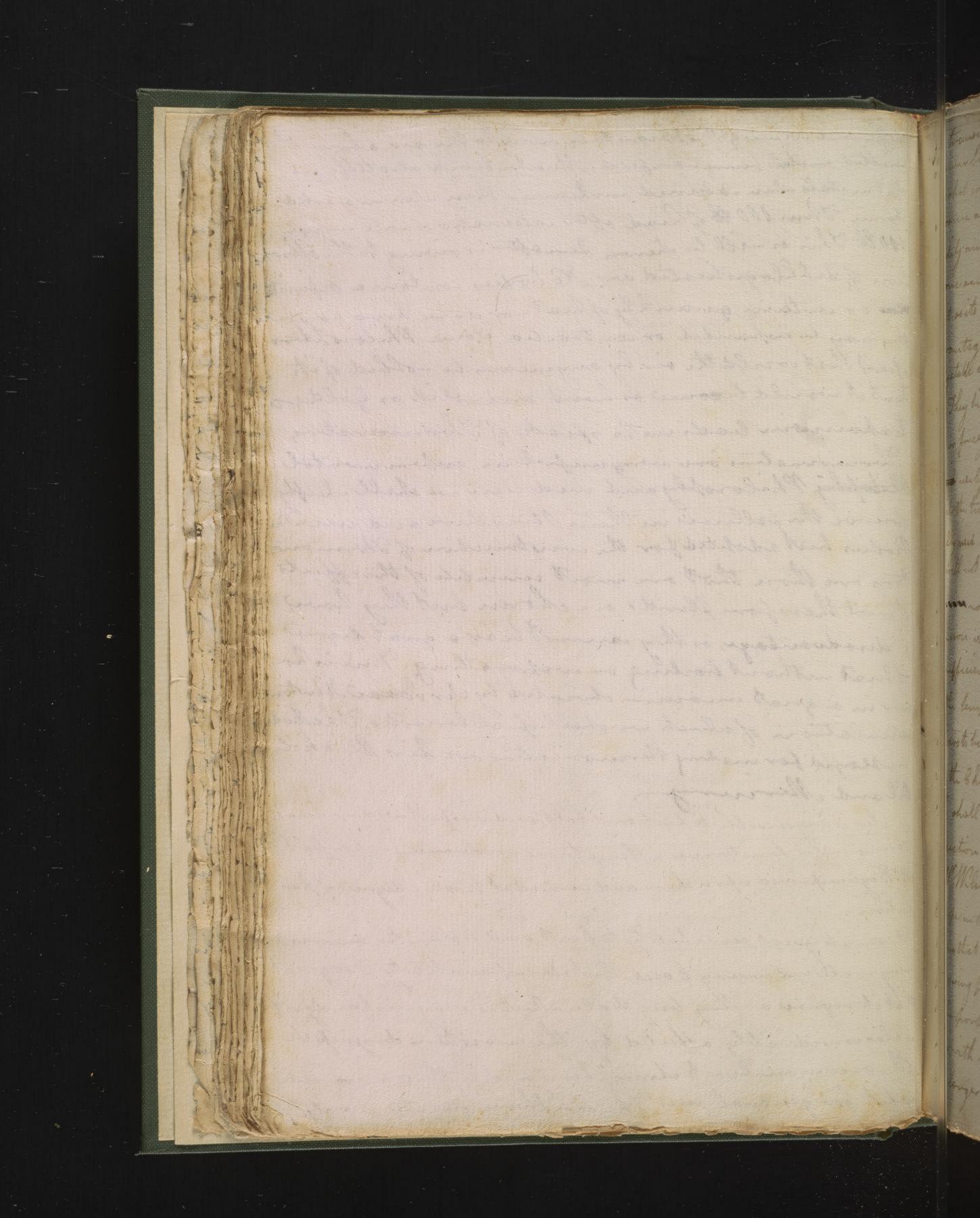
The Florentin academicions but some water into a show tune. At find the Oplane was so strong that the bold had no effect whom it; but whom having port of it off it was bries that wind Cene by the expansive hower of the dee. From Lindence bearn why yenthe raws succeeded by frost so greatly festing leged the earth; for the moss him immeding thelfinto the booth and hering them frozen by its expansion from mulles the earth into mall herees, this mellows the Ground and makes it to be from early henotrated by the notte of the blants and the external six the lost of which not a little promoter vegetation. From this we leave My ponements become loon ofter a mobilen thow; why unounfred houses moulder away gradue elly ofter a long and cold writer and My condition Pilus one so briguently hurst after a cold wenter This is from their muning too near the our face of the Earth so that the troot los occaso to them and freezes He water contained inthin Philosophers how her purgeled to account for this encoun of bulk. Home long thinks this expansion in we to be owing to the air outoured in it which he rays may be seen in the form of bubbles in the most whit dunch of de But Iwould object to this I'Mat it is the uniform effect of cold to constens dain and not exchaind it. But waving this consideration, after depriving water of its our whom exchoning it to cold Muschenbroech and Marran found that is wor still frozen and with the rame appearment of Bubbles. 3.9 Or Holes his hut the metty out of dispute for having put a herce of die underg water he piered little holds into there bubbles which appearing the Iwand found that no ver mished out quickly or with any force, which wrtoin by would have him the Bow had them heen any homent esturally of in that thati in Shuh Homeling suppond it to be. M. Marran

the entire when when we will tothus Topics - - -Marin as the decision of the colorest Black

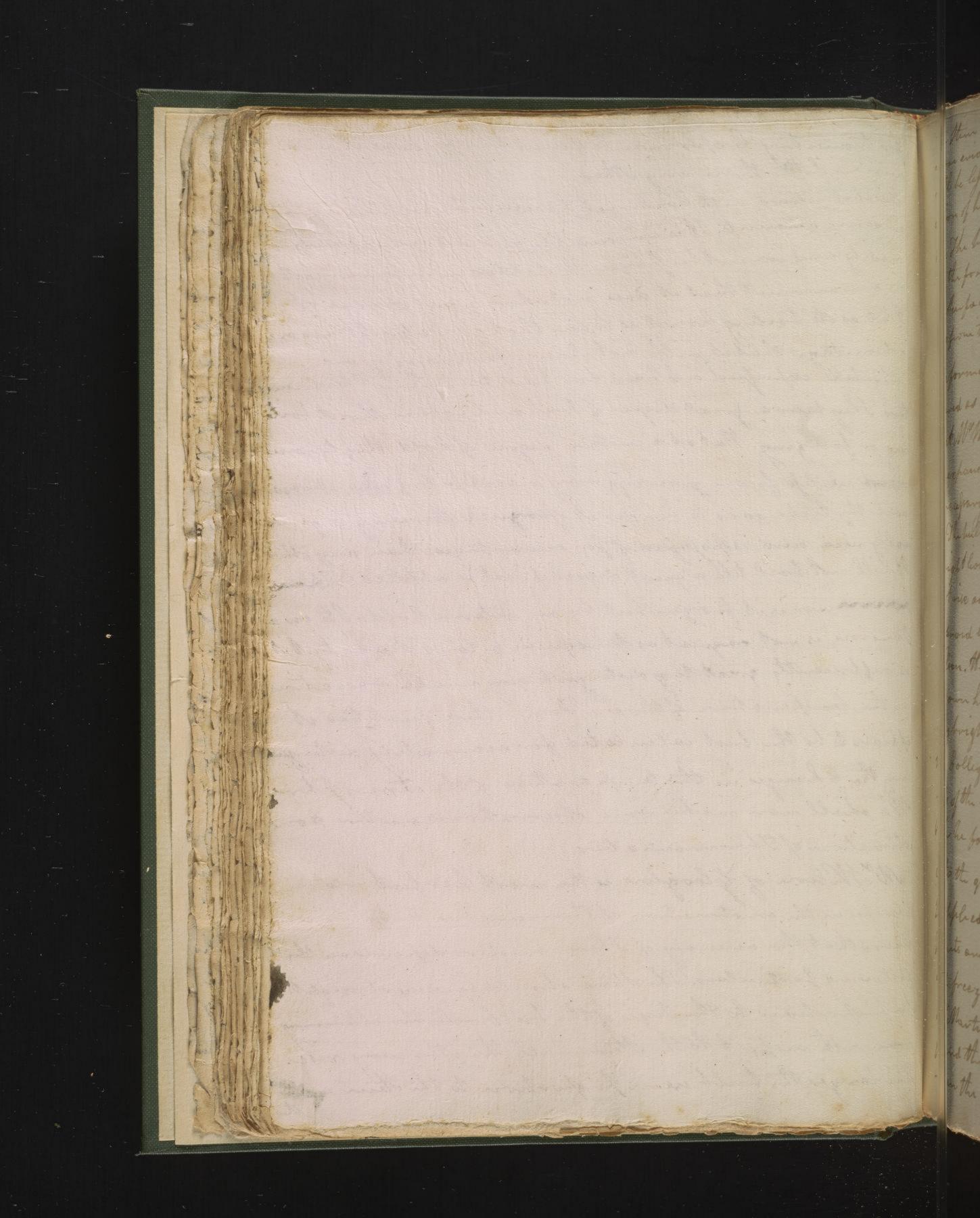
proposed our of mison of his own and attributed it to the strong tendency which the particles of water upon their convertion into be howeto enteach other at anyles of 60. This seems to be the bose Is Inone the appearance of de which is not smoth but and gular Ly From the resemblance of to know which is wopor froger in the our This form of Inon hos by some been attributed to said a line Mula. But this cannot be the bow or snow water hos been found by MM Margraef of Berlin to contain no Dolt but? to be guite julie. Its this is the con it offord a strong premuntion in foror of the truth of this hypothesis of M. Mainon. Water is not the only Mist rent the contracting hower of Bold Mi Reamond. hos found another exception. He has descovered that word metals hoshulosly won expand whom hofrery from a fluid to a solid form. This has been attributed to accounty formed in the Inon which counts be the cose of this bourty is found in other metals which one not expanded by cold. This evenion! of bulk in evon oppears to be owing to the particles touching of Angles and not uniting intimately Hence cost Inou is not so comport and duroble as wronght inon. Heat expands inelation, hodies with a strong forev. The Florentine Exchannent does not prove that water is absolutely incompressible The sompreficility of water hor been seproved by a late to writer MBouton in the Philosophical transactions Upon tohing of the workerfulolity Junginer of the atmosphere he found the water exchand unsilly and vine in the take From lever we say conclude that water in its notwood that is mon or less in a state of bourfression by the informer. bent thursphere. The years expanse builty of this flind by hat is & rendered wrolered by the simple exchanged fo Blackmith Setting on on onvil and then giving Bodies that one enemoned by heat and diminished by Bold rufter no alteration in weight. Musikubrouch ings that when wetels one welted they love love a few grows of This weight which they mover when wold. But this small



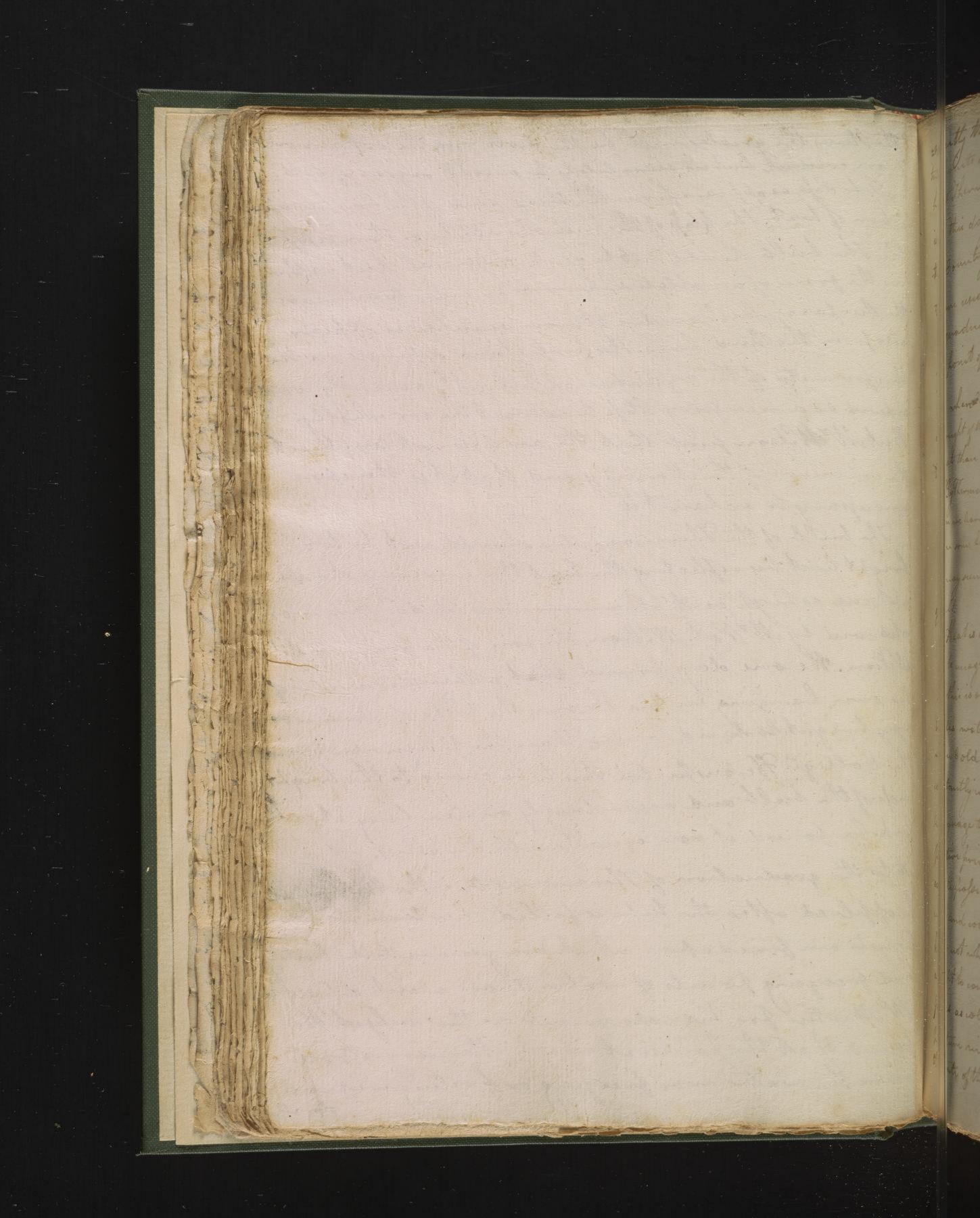
difference in weight oblicons to be owing to the oir above the metted metal being non fred. Muschenlinock also tells in that metals when columned an heaver than when in a world Home. Thur 100 86 of Lead ofter colcenstion will weigh 110 to. This or well be shown here ofter is owing to the ollson tion of deh blogesticated ar No hodies contain a definite or certain quantity of heat, nor do we know how for My may be expanded or contracted. Some Philosophers ofeed that would the our by any means he nothed of the heat it would become or hand and would or Goldes Exhausen leads us to speak of Thornometers, Thermometin one very unful in exchangemental the before Philosophy and medicine we shall chiffy observe the follows in their Obructure and und the Bodies hut adolited for the construction of Themone tens one thou that one most unable of the effects This therefore fluids on chosen but they have a disodvantage, or they count hear a great digner of head without borling or evolvorothing. This is house nev in a great meaning obviouted by der vacas Senting colculation of which we shall speak love ofter. The fluids unplayed formalmy thermome tons ore bir, theohol; til and Mercury. Air is very senseble to heat and bold and was first used in making Themomether Sametonius's attempt was mide and imperfect M'Boylourproved whon him and conveed it to some degree of her = From its great sense be lety to head and bold, this answers very well and money boses. But its expanse he by is so great that it requires a very long Icale, which is very un handy . It is also wounders by affected by the mortions dryings de afthe uneumour lient sitemosphem and is their neudorete up to for general use. The oir Thermour eter is outs fell



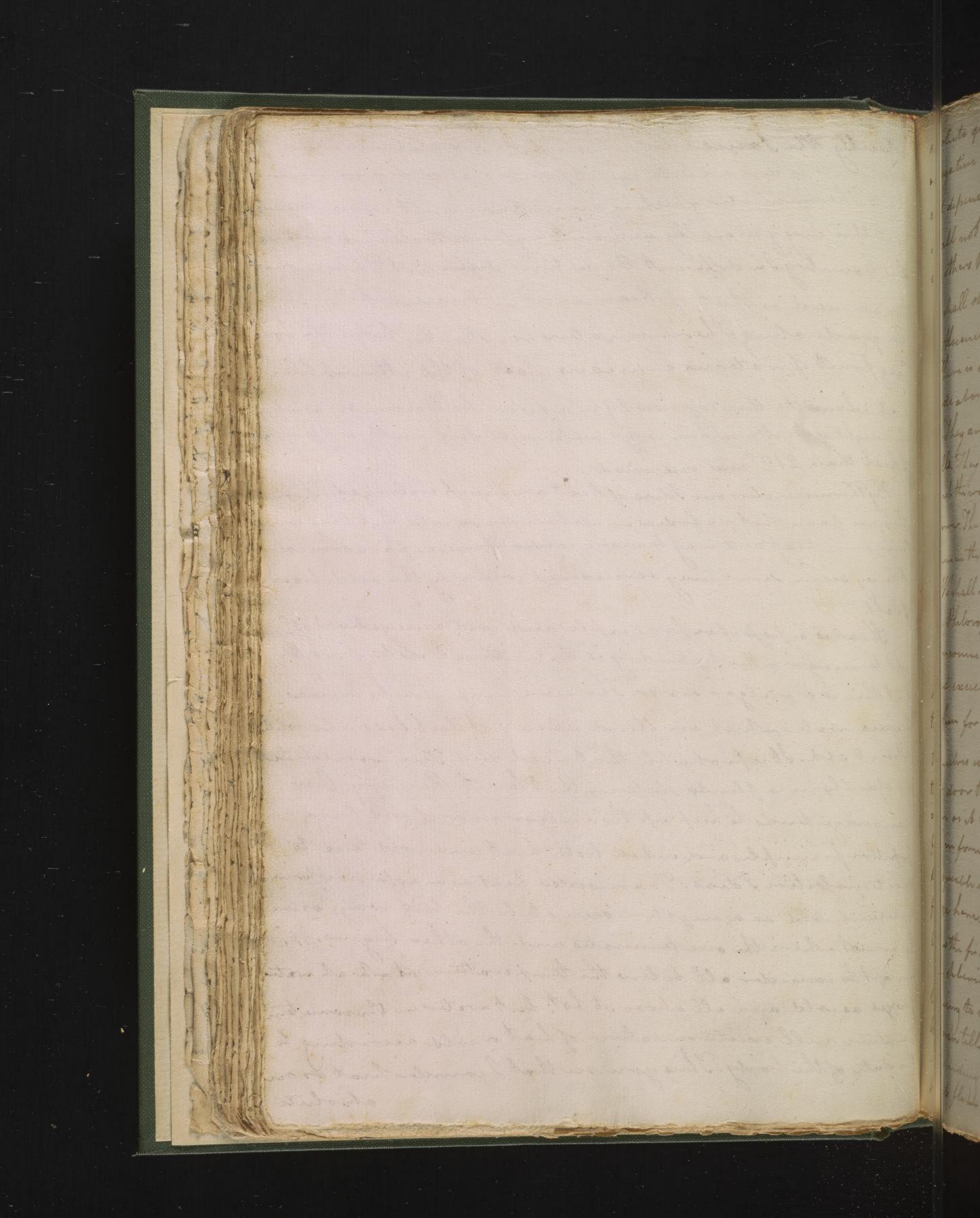
for trousitory & represents yourd him per hops it will answer lette than any other. Alcohol coloned with bothereal has also hun used. This is youth on some accounts. It is very secrable of head and expounds readily and count be frozen. But it too is inconvenient. on one around that it does not ahen great degrees of Leat as its boiling fromt is below that of water. It has one of Negetable expressed oils have been used for making Thermone ters. They have great degree of heat and cold without boile ing or foreigning. But at a certain digne of Bold they become vised weelife from growing very viscod. They also always soil the tithe so as to nender it ofragued. Mercury is guite It will not hail till a great degree of heat is applied It was however nor is it frozen but by an interne lold. Its ex= hourson is not so great as to reques a long deale, but to is sufficiently quest to to obstruguish very small voor ations in the lemperature of the oir From their qualities is oppears to be the best colon lated for occurrently distinguit ing the Changes in the length another of the atmosphere We shall now make some observations on the bound struction of Thermome two M' Wilson of Glosglow is the most her feet artilin Europe in the construction of thermometers. From him west learne that the occuracy of Thermometers depends on the following barticulars. The Stern should be very stronght. In proportion to the Juge of the hull will the Mercing were with respect to the Stern well the Mercury with. The longer the bull is in proportion to the their



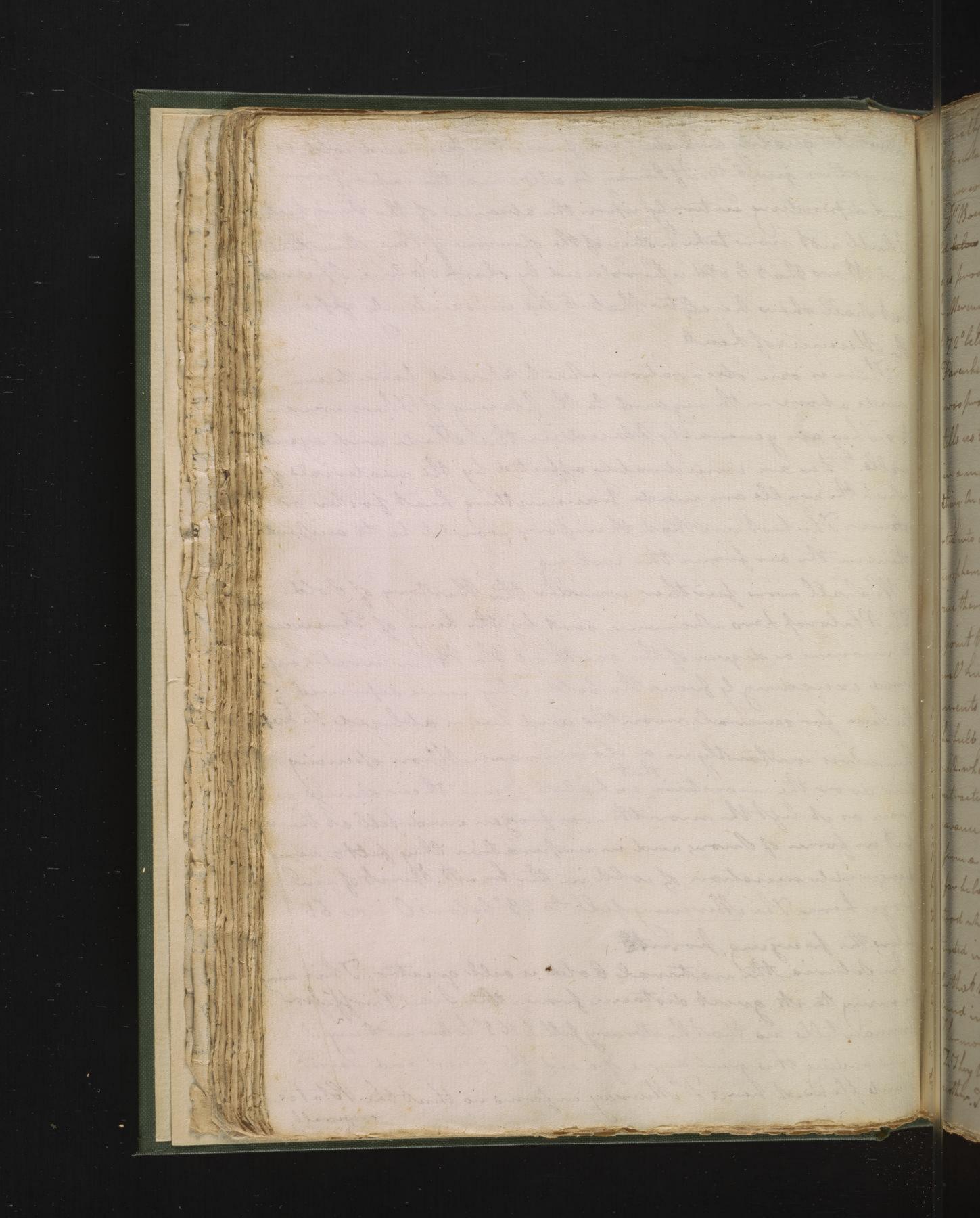
The Stem the greater will be the Scale and the expansion mon evident, but its sens libity to small degrees of bold will be life, as oppears from the third Low of the Communicion cotion of head. The glass of the hulb should be or their or popular ble. The bull should not be quite sherrial, but nothing in the form of an ollate Theword in order to encueuse the Surface which menders ibmone sensible as appears also from the third how. Its perfection defends on the Uniformity of the Cylinderical tule Ib is usually cond ndered as a neighbory of tep to extract the air wholly. But Milson finds that the air does not countered the expansion of the Merry and that it is therefore uncapary to exhaut it The will of the Thermancter should not be too bright lost by reflecting the heat the mercing should not me as high or it otherwine would do. This was observed by Mr Pot. Wilson, the son of the former Mr Wilson. He one day found that a thermometry his own hanging in his Room, the bride of which was my bright to stand lower than the themmometers is the bollege. He misher ted this to be owing to the tright refr of the bull and accomplingly on doubing it with Inh he found it now equally with the others. thato the graduation of The mometers: the hopplied after the techn is filled bertown standows hourts one feredupor which are generally the horling and freezeng homets of water. We are much obliged to M'Martin for his experiments on this myest. He found that the points of which Mercing stood when the water was freezing or borling were con its



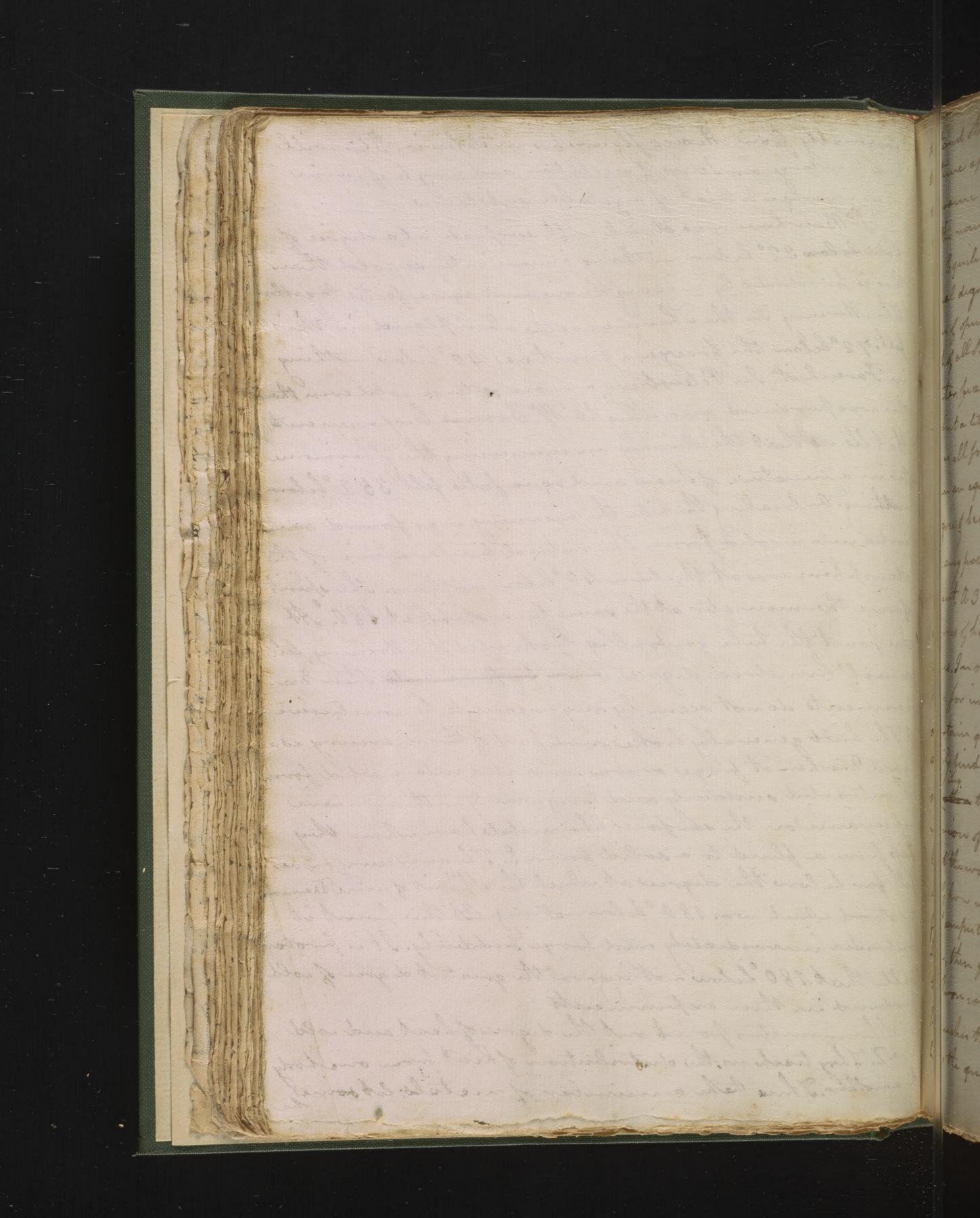
storetty the Some? The inte mediate spouletween there, two points is devoted into equal portions called degrees. Faring heits Thermometer which is an improvement whom Martino is at this day generally und in England Holland and und this Country In different Countries different Themony ters are used or that of Meanmer in France de. In graduating of hermaneters we should take the boile ing fourt of water us a meany Note of the Atmosh hours 1. I. where the Mercury rises 29 & Inches in the Barometer, as when the weight of the Atmosphere is less water will boil with a less degree of heat than 212 and were versa By thermometers our Ideas of heat are much enlarged. From then we have that no losies in nature our so cold, but they constain some heat and may be made colder. However paradocciol it may seem snow may bevendered colder by the adoletion Heat is a possetive from while and cold a negative. We on aft to unagine that flundity is the nature & state of water but this is a vulgor ervor. Them on many suli taines buildes water which our fluid when hot but herouse solite when Bold. It is probable that Lead and Tur would be constantly in a blinder state in the Planet Mevery. Our language tends to keep up the onlyer error of wold being positive principle, and indeed both head and cold tend to exerte possitive I deas. To rousider heat as a possitive hours uple and wold as a negative seems to be the best way, or we know not when the one termes tis and the other begins. We an afit to consider all be love the temperation at which water pruges as cold and all above it hot; but water in the sometime herature will excite servation of heat or wold according to the state of the body. Thus you see that I console heat or on



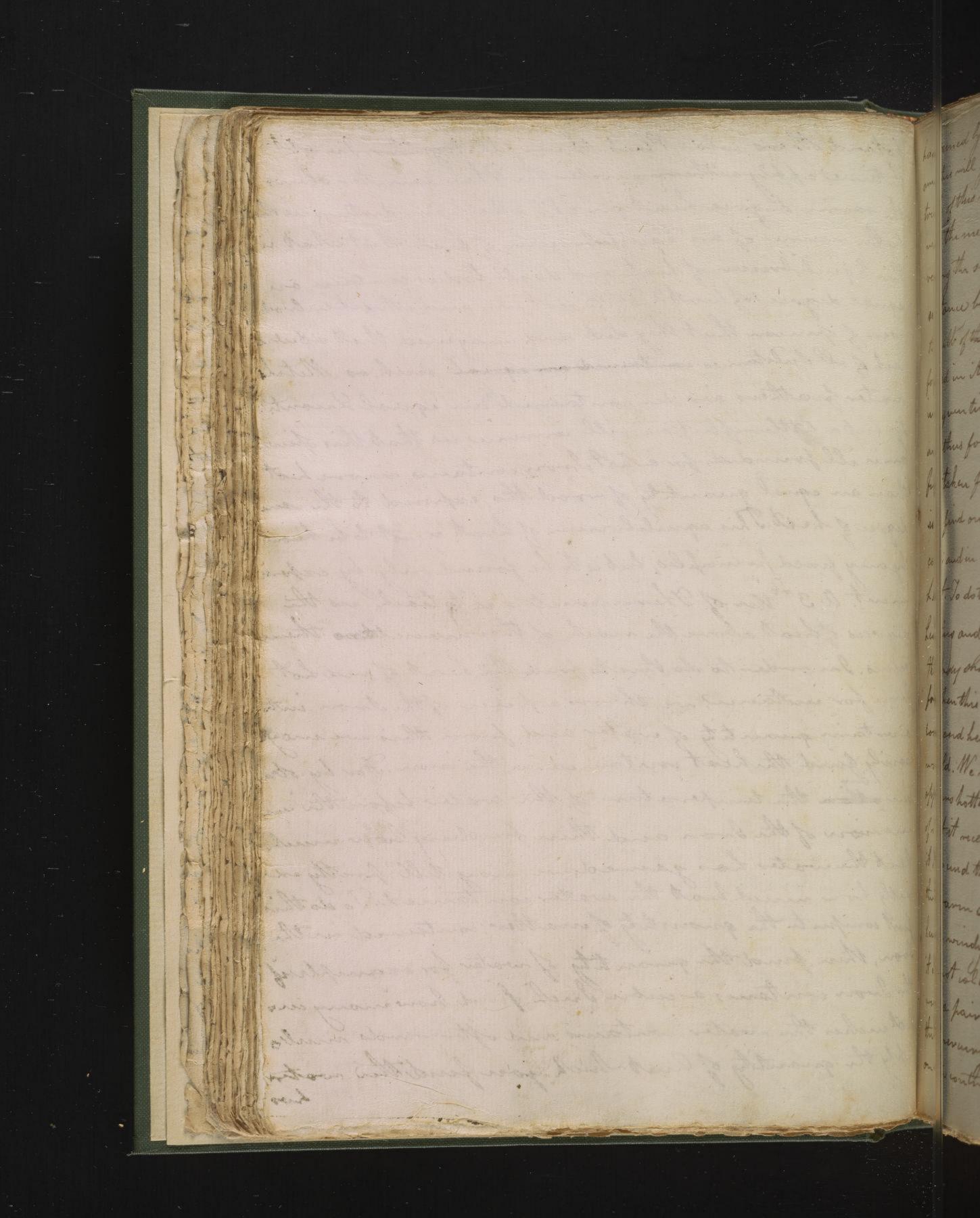
absolute quality and derived from the Turn and cold as a negative quality, of I may be allowed the expression and defrendering entirely whom the absence of the Sund heat I shall not now take notice of the openion of Van Sweeten and others that le old is problemed by sharp John Sprenta but shall show hereofter that it depends entirely report the Alserner of heat. Them is one observation which should have been made above with my and to the placing of Thomores ters. They are generally placed in the Shode and against walls. They are considerably affected by the materials of which the walls are made transmitting heat forter or slower. The hert method therefore would be to sushent them in the air from the welling. We shall now further consider the Bestony of Bold! The Philosophers No were sent by the king of France to meaning a degree of the earth at the Polar well, my fend exceeding & from the bold. They were depressed of this own for several months and were abliged to keep Humelies constantly in a close noom. Mor opening their door the moisture exhaled from their Shings, as soon as it left the mouth was frozen and fell at their full in form of Inon, and in infrinction they felt a very desagneeable surration of cold in the most spirit of unit froze hom. The Mercury fell to 33° below O i, e. 65° below the freezeng hours. In Saheria the natural bold is sell greater. This may be owing to its great distance from the Sea. Proffesor Umman tells no that the Mercury fell to 155 he low nothing Not withstanding this great digree of bold the finest and world blants flowers here? I Murray in forms is that the Potatoe



oregenally from Mexico flowership in Silverso. This will tend to allarge our Idros of vegetation and may be of service where we evene to treat of vegetable substances I'Boerhave was struck with surpress at a digree of Bold below 32° below nothing a more interese cold than this is produced by mixing I now and ague for tis together The Mercury in the Thermometer when placed in this fell 72° below the freezing fromt, v.e. 40° below nothing in Favenheit. In Petersbury a mon intern cold even though this was produced according to MB round Experimente He tells no that the Mevening on immersing the Thermone ter in a mexture of I now and ogna fortis fell 352 below nothing. In breaking the lite the mencuny was found count verted into a solid form. The metrical temperature of the atmosphem was at this time 40° below nothing. The spent from thermometer at the same time stood at 480. At this fromt the take generally tooke and the Marcung fell several hundred digrees. Then before to Then on priments do not seem by any means to be conclusive 1. The bulb generally broke and part of the merenny es caped. 2. when it frage or was conserted into a solid former it contracted suddenly and wregularly with a concave oppearance on the surface like metals have when they hop from a fluid to a soled form. 3. The movement never fell for he love the degree at which the Spirit of wire Thermon ter stood which was 180 below nothing. At this fromt it contracted immediately and frage and denly. It is probes hall that 180 below nothing was the questist degree of cold produced in the experiments Themometers point out the dignes of head and cold to another. Thus take a number of matals; let some



hot and others wold: Place them all together. In olt the time apply a thermometer the Themometer shews the some digree head in all which we disting with by the norme of our equilibrium of head But what is This & quile bossem of heat and do all bodies con tain on equal degree of heat? DNB oer have and Muschenbrock were of openion that they did and may med that a Bulie with of all Sulstonies contoured an equal mich as Mitals noter, prothers air de contained an equal Luantie ty; but a little refliction will convenie us that this spini and ill founded, for a hot I non contains more heat than an equal quantity of wood the exprosed to the exercise degree of head. This agnilibrary of head is not to be known by any fixed principles, but is to be found only by experie ment. a 3 of Mr of Thermometers is to teach us the dignes of heat above the mach of thermomethers them selves. In order to do this to find the heat of med hot Ivon for instance, we throw a perce of the I non into a certain quantity of evoter and from this we may easily bund the heet soutamed in the mon. For by olo sevette the temperature of the water before the me morrion of the Iron and Then furthing how much head the water has gamed, we may tell frutty est aty how much heat the water contained. To do this first compute the growth to of metter contoured in the Iron, then fund the quantity of water for examplif the Ivon contains a cubic Inch find how many and not makes the water contains and ofterwands mulo Why the quantity of and which you find the water



has gained by the number of cubic inches it was found to contain and this will give you the heat of the evon. What confirms the touth of this method of bourfulation is that it corresponds with the method used by Sir Isaac Newton for disco verying the same thing. This Pulosopher after the heated substance become quette coll somewhet wool offered the bull of the a thermometer in a bourty which he formed in it and ofterwoonds noted the digrees it lost wa your time. From this he relimbated backnowns and thus found the degree of head in the Looly when first taken from the five. At. Mor of Thermounters is to find out the time which bodies take to heardy cold and in what proportion they lose and receive heat. To dothis occurately it is necessary that the heating and wooling causes should be the same Hence the body should be exposed to a current of air for when this is not the con oir accumulated nound the lody and hence it will not wool so fort or it otherwise would. We may here explain the moson boby still are oppears hotter thou sir in motion. When our is a state of not it orcewishear from our bookes and accountation it are und them, but when it is in motion it corned the warm almosphen from award us and hence woundy weather generally news the coldest. But A is not colder or you may be convenied by blowing with a pair of bellows against a theory our ter, when the mercury in the take will not work in the least on the contrary it well never for the hat generated

1. Mary hours sepa -s ustingle Other d Much n matur 1 when

the free tion of the wind against the mont butte is sufficient topwoodner this escencion. We may also in this may eschlain why we whom is melted is melted sooner those when in still air vez. by the cool sir around it, which would other were remain there, heing conveed off, and its place constantly supplied by warmer air. We now come to consider the second year al effect of heators. of Fluidity Thuchty in all hoolies is in consequence of the action of head. Many wasons concur to establish this afoestion. We find that many tooks notrivolly solud, become fluid by being exposed to heat and on the contrary others that -one nothingly fluid become solid by cold. Spirit of wind and Of ther do indeed remain flind in any degree of Gold which has been yet produced. But I have no doubt but they might be vendered would would we not them of a suffrement quem tity of heat. Mercury which was Joromarly thought to minain constantly flind has lated by her mendered woled by cold. There on some military us in nature or certain souths and Stones which house her made blind by head, the this is no orguniers of their hung absolutely infresable for them may be grote or digner of heat than we on yet orgunantid with. From the & reperments that have been made it denses it officers prober like that a live might be so constructed or to welt the hardest hoolies in me tune especially if continue dubetources were added to flux tham. By let accounts we one informed

ha it h n ay an Stranger Chi march to for free my in form. to at 32

the Parreson Academicans love fund a Diamond by a powhenlar burning Glass. This openion of flundety be ing always the effect of heat is denged by Musch entrocky who afsents What water is meturally and efsentially blind and that its freezing is overing to autoin extraneous matters exerting in the oir which he called forgon fre for tiles, and introduced into the water. He produces therteen proportions in support of his openion. I shall take no the of and white them seprentely. 1. That water runaining a nist or when hept very guest don not congest till agitated; it then unmideally fruit yes. He thinks that by shaking or agetating the water some for ergn body is introduced and mon interest muced with the water. This may be owing to the water bung somewhat warmer than the nernounding Me. dum from farting with its hat slowly. The oyetete an may some eva fromation and disengage the multiple quantity of superalundoutheat. 2. That It wort will continue some times of 36 and even 41 of Formalects thermometer. This we count duny or it has been observed by Wolfiers in German many and Kennew in Finance. This away home been owing to the long time In and Inon require for receiving heat or melting, and it is probable that the themsometer would have it stood at 32° near the Surface of the earth and that the air abour was somewhat who wormed ! by the men. The difference in the nature of the

I as a water rather about sedo " # the th hat her re my h + umig he have or Lan los vece soils on which they he will hour a woundwill ffeet Thus when dying on a rously well know soon welts but when on a cold cloy wil it will continue frozen for 3. He observed that he saw a thou when the Merceny stood at 30 or two degrees below the freezeng privat. This we do not derry. It mught have been owing to a counderable front precuoling and in foregery note harts with its heat as we shall see here after Amight behenves how heen owing to a coundwall thow the thermometer being bloud ogains a wall and that lung a long time in communitating and receiving heat which is generally the work or the Iwand ordu might be on a warm saudy soil. Hit That there is frequently a hour frost on vegeton Her, straw or name light hoolies when no un con he hercewed on water. This is to be accounted for from the of the communication of head org. That the mer four and hulks of hodres being given they love or receive heat in proportion the the quality of this matter. This frost is observed on non only light trother only. 5. He often observed from en april Allay and June of the very warm days, and holdly francourses Mat this could not be owing to the water henry robe and of the heat. This may be accounted for fuores a evopovotion Jusobucing Gold. Tuch undden toon: utions one very common and warm days one frequent I mereded by very wool neights

and a few and a facility was a first of the said forther forms denger and frank applier ir or s their more to deep fillbert experient It leaves a loving time in communication of the og heart adult in gen mothy this inverse on the L De no planes a mount is not and the former fin all free That there is prequently a ham from the or way a in, med to the from high looks where we were will do on another Ethio in the the excession had from first m Whe you have of the commence thing of head they n mys the my four ound har the of lander leaves from t

the their on more at the same time in the northern comme twies of one of his may be accounted for from the viently of the nor their countries to the New or from their hing mernounded with water which tends to make a rountry warmer yth The questings of freezewy in stagnost water is not finos postioned to the degree of cold. This depends whom the queher or slower motion of the air. When the air is no motion the warmer well be sawed off and the wilds mels with by its heave and thus the water will roomer be wohled of its heat. The Luchness of foregoing is in a notion compounded of the degree of cold and the agetation of the sumounding air. 8th That a muchim of Tolt and Inow placed over the fine will freeze water over it ashich Muschen brouch thuis is owing to the forgon be hartieles propsing from the mine the to the water. This is by no means a profer wife = never. The vold produced by the mexture is so great or to freeze the water long before the fire can extend Its head to it. gth Ague Forti or Mitions acid when youred with in produces rold when messed with water heat. It ought to have been runewhered that we and worted hopels very different properties and veran original for the wold evolved in the former com and the hust extracted in the latter without longing in the fire gomber particles. 10 We oftentimes during the might ne no Hoorfort or we on the goomed but after the men weres, but Attenthe min mines wer observe it covered over with

there ! the britis. 胡桃松 din more of any of a comment

courts of Front. This is undon tedly time. Much embroid supposes in this con that in forgorfir harticles exist in the air in the night time but that they wome in, in the morning. This may be owing to the mays of the Tun occosioning evoled votion and What producing rold. The rold in the right may not be sufficient to freeze the water, but so new it that when evolvono tion toher place the cold produced will mon thou counter be them the head of the time, on uguerity congeletion will take plan. We Nall hereofte There the connection between evoporation and the generation of cold. If In water Mushenlooch observes is hard untill hold Boiling he supposes defor hotes the forgorber partiles but this is observed to be different by others. By hand water we mean meh or will not easily defeative soof or hold regetables soft. The horness of snow or we woton is often very transitory and owing to its extreme wild mele for when wormed it is as roft as now water 12th Ho ways that the Inhalis bounts of the alps on office ted with a desion colled y utter turnidum (huis gutter turnedum menoties in Alhebres) which he attributes to their drowhing Inon voter unpregna ted with their maginary forgon bir frantiles. This tryument has no force at all, or all thou persons who has on the offps and drink mow water one with officted in this manner; neither one the Inholes tants of the Ander who use more water as freely as they No whom the alps. 13th hat all boolies contract by cold except witer which is enlarged when it becomes Iw. Which is one this

at A Us. He former mbit Meret while This 1 x dres 4 place an In 4 waph tels. A which a mato by the

this he owing to says Munchenbroach but to the seassion of rome brigorbin particles! In howemen's not heaver thou water. This he allows but raysit is owing to the extreme munitines and subtlety of the particles. He did not comoler that righter of antirony and mon exchand in hafring from a fluid to a solid forms. Can then wolning hosticles enter into Here mitistomers when they am med hot? No, It come not therefore he owing to the abrumption of foregoirs fir partiles but depends entirely whom the abrook. tion of heat. The moson why in exhauds roe home before observed is owing to a chrystatlegotion to: king place consequently interstiles must be left. None Iwester in his bounnentaines on Boer = howis aphoresms admits this theory of Jugon for partieles. As ever in shahring of that hund of yours greene which armes from humbs hearing from thether, he advins atoplasmes of Inor and I'm which he imagins from unful ly introcting the brigon on Themlow but this notion is balse. A bataploom of this hund outs by stimulating and probling a vyorous Beventation in the frost better tunto Voor Invection walt on to his africtairer the abralogy of a progen opple, by attracting the brigon british which he royo know he were in the bone of should on the Invoor of the offer. But we account for it thus. The water in which the apple is immersed harts with its heat to it until there is am equelbrium produced. The water more minediately in boutect with the Apple

A The of free of the second of the opening med in to the antone man and which we to the fine of the our tha to the did in it converted that inquite the ter who the till down the form of more of the season have been been the till lower . bour there were his paytheles with a for Burdet who town us when they air with hat I I to grown dies is reform the coming the this about the time of foreigness fuent d or heles but the deprivate in the of where the willing Podies and heart. The man on only me anopoured markon the Febr observed to overing the a consequently other security ed its the lance extension of antension of the Late the ething ? Han I western in his to commendances our brend have approveding enterests their thereing of forgon deferred At The atile Men in aliabing of that hund of g pense theel course from the house to the sense dung to planer who I have of burn wind I will have willing 1 when is and provide and are got bush one on a strange the suffered the contract wesolia

communicates its heat to it more freely and quickly. It is therefore frozen and forms numerous specula which adhere to the Apple. Thus there Specula ove not extracted from the Apple but formed in the water. Warm water has not the same youd effects in thaning fragen fruit, as it imparts heat to them so rapidly as to distroy their texture. After what has been said we have reason to believe that flurdity is the natural state of all boolies and that all bookies can be converted into fluids to which we can apply a sufficient degree of heat. We therefour conclude that all would bodies am progen. It has commonly been supposed that the February of the water depends on the of hereal figure of its particles, but this is by no means the case, for all bodies their must comsist of Shherical particles, as they all may be rendered fluid by heat. The differente between expansion and Fhirsty is that in the 1. There is a regular progressive encrease of bulk seconding to the degrees of heat applied but in the 2" The tronsition is sudden. Then an certain points which one of welled freezing or wag whating hourts at which all bodies become solid. These and and different in different bodies but an very constant in the same body. There are a for bodies that have an intermediate thate between flushity and Solvolity, as ware resens fe. We shall here explain a few hemewel terms. Those bodies which am solid in the common temperature of the others Then and am whall of becoming third by heat, and afternounds an vistourd to their former state are said to be eapable of Furion. In Solts and Metals belong to this Blogs. Thow

makenes to the Nasatta it is is whity o or gue Man thers Malae west of the other way des 1 Pots one hi right of sent to sent the 4 Lynn ment ho Major old g hunt an she s Plate green festiver accord

Thou hodies that do not assume their sommer of theor our but become smooth and tromsfrovent after fund are raid to be vitrified or to have undergone Vitrifica tron. To this blofs felong belong earths, Stones and Metallie boles. And when metals under go this opens, Hundity depends whom the presence of habin a la = tent or quiescent heat as well as in a sense ble state. This umous proposty by which heat deverts thely of the mod shawacterister mark that of hing heraptible to the Ahermometer or the Senses was first discovered by I'Black. He has observed that heat exists in two different states: one he calls absolute or latent heat and the other sensible. To illustrate this he made the following snuftle but conclusive expensioned. He took inon frots of the rame size and heated them not hot, Into one he fut a hound of water into the other the some quantity of ou. He found that the water necessary presently 212 of head; but the ace after melting had agained only 140° of hat. He concluded therefore that 42° must have been both absorbed and become leteret in the hafrage of the ree from a soled to a flind state The cold generated by the solution of see in netrous said is owing to the conversion of mostle in to to a tent heat and the heat oning from the meeting ntriolin acid and water is or conomed by the convernon of latent in to sensible hears. From house we the maron whigh the weather is gen wally madenate before a fall of how or its must in

of flys Rud Shen we to be in Genedally defined and and the procession of ble he to a generalized deat so in the quat Shat and chains to make how the and all n alylob Black: He has observed that had must thirita intery sample line our chance a mobile in 4 Chair I ble que wehs to with who 的时秋 ful a facts of

its formation part with a quantity of its heat to the Atmes phone. And on the contrary were that the coldness out varief of the air oliving a than is owing to an absorpting tion of heat whom melting of the ine or Inow All flyds contain a quantity of mat in a latent thate or quesunt State The own abounds with it I it is probable, that, by the conversion of this into monthly heat the booth will be prepared to under go the great bhange at the general conflagration. Here me me that the infedils on or devoid of faith or of Philowhy and when they ofsert that the nature of the terror quions blobe will prevent the effects of the fire to for from this it is probable that the orean may conteris in to its matery hosom the fire that is destined to work the earth in flames at the last day. To begin the donadful Isen it is only necessary for the great breator to let gothe Chain which confines in the ocean its income mobile quantity of laterest head. Us we have already soundered the history of cold and to effects whom several of the objects of Chimistry, we shall homestered those to one mon vez. Anunal hodies We have almosty spoken of meaning the digner of haband bold. We shall now mention the method of preventing the hamful and mosted effects of bold. The human hooly is so continued or to receive on measy unration of Bold when the Mercury falls below 62° of Farenheits thermometer. This meanings in = mores or the Morning descends untill it heromes hamful. Anunal bodies have a hower of musting the effects of heat or told to a certain digne . Theat

Al We. on when with a should that the wine un the 30 by woulh former and the that I when you to keep an do and et so only manylow y for the great deep de un li 200 Garre grown they of laterest haid we an oft have a locally renewlated the in the arrand of the objection the the deal time to the state of significant for only men wer mi m. m ne the He

lepens and rold enerouses the oction of the bourses generating heat the in the System and this prove the means of obvioting their own lad effects. But romitimes the degrees of bold and too power full to be overcome by the efforts of notions in well cons therefore we would call in the aid of art. And its will be pleaning to the Philosopher to enquire how the means wir monly employed for this prishon produce their solutions effects; and where on too weak we must endravor to ent woon them The 1 Method we shall mention is the Mr of the Bold Both. We need not address the Indians of this contrava un the bold both again that it murdens the System Up would of wold. Hence it is used to fortify Child down and by the vigor which it yours to the System were der thun life hable to the effects of bold 2 Meaning loose yannents of furan Wool. There we an oft to magne an warm in themselves; but they are only so from transmer thing heat lefs freely than lunion delh de. Loon you ments were formerly much worn by the auteunts Homans and even non by the inhabitants of asie or being work morine wenter and booler in Immer. They one varmer in wenter by wondering the perpenation in greater quonitity. When the hersher time is cons ned of quickly the hooly is helt cool. Them the difference tetween wondy and welm weather. Then the the vector why different herrous on so

h. Atheir the Mufran di what 10 and yet

so differently offselid by the same state of the attriorphisol by the perhandion being convied off quicker or slower. The 3" Method is common by said to consist in avoiding heat and thus handering the booky. This is an uneveral and prevailing opinion from a suppose how that head energy the unabelity of the System; but from were fasts which I have met with this oppears to be a vulger error. I'm bermons who ut almost constantly in warm stone rooms? the heat of which is from 86 to go degrees are the mostinos bust ound healthy people our ongst us and but able to went the effects of Bold: The West undeans hear bold as well and better than the notions of this country. The heat of their blimete is reldom under 66. In Ichemin the Muforans un a vapor bath twin a week the best of which is 112° and oftenwands plunge themselves into the I now. The heat of their those novours so generally 104 and yet they will trowell work and he out whole days without coming near a fine. The coldness of their Elimate may highelyed of from observing that the earth is covered & months in the year with I mon that the ground is progen tempert deep and that the merenny in the ther mornetin uldon mins formany months above O. Finom then forts that probable that heart produces unserntality to wold? May not had and wild produce vecipros al effects on the extremeties of the nerves of the Shin an africk each other in shounghtening the System ? His however only a very guest dignie of hat or a moderate degree long continued which will have

lt is eha.

the effect of producing unsuntility to cold. Hence the mason why we cannot hear the wold of our blimstel so well, busin the hat of our numer is not within mongh or does not continue for a sufficient length of time to fortify in against the coldness of wenter. I mofrans how the heat butter in the Wind Indies than the notives. This sufficiently reporter on organ went brought in favor of the Olove trade or taking nignois to the west indies. If an Emopion inchis for the first year he well do mon work than wend negroes. The towntry from which the Negroes one brought is so furtified that shows every necessary of life is apontonionely produced. The unhabitants line therefore northwist bahor. Lator in warm Climates is not conducine to hielth of a man and it oppers that he was not destined for it in then Bereumstranes by the 6 vactor. Altho it he granted that the Nas times of rold blumates bear heat better than the Na two of warm Climater yet it will not so modely be ellowed that the mount tohis place. Thus it is the common of miron that new guinea negroes will not brow the bold of this blumate so well as the natives, but my observations do not ionfirm this notion. The uncumstances that governo to It may very mostly be occounted for by that land mor and depression of Thinte which one the notural consequences of Howing and to their hing hat illy

Be late in m thojit wa wappe

In fourth Method is to heep the feet warm. The effects of Gold are here first felt on occount of their nemotimes from the host and brain. The molians relolom expenseme any enve convenience from sleeping in the fun are if they have their fut to the fim. Them on reveral ways of heching the best women, It by wearing loose coverings to them; for this fund for the Morho sons are motion those one very well when loted. In bound of the in 195 g the Soldiers who won the Mochasons had not their fect from better, whilst thon who won show and were enfound to the same unlinearented fratter wen offeeted in the above mentioned mond wor. But 2 40% the but on almosty wold soon of toods met of motion as walkery an uning excours, if this hope hunto mone than one in 6 outrany the Method wird by a Gentleman of the Delawane State may be used with advantage. He attempted to crops the bluschich Bay late in the evening but was progen up in the. middle of it. The prospect was glooning and there was no oppearance of which. He found his fut you exceedingly wold. To releve this he fulled of his both wited his feet against the ferry mans bread after lying down in the host, nothering the fungmen to do the some to him and covered both with his great boat. After a while they full asleep: they slight all night and the guitteman anohe in the more very I had his house over to the shore, Than omothers foit. A furtherman was walking to them town late it night. Abe was overtaken by a heavy form of rot mor and lost his way. He land down at the book 4

tores r de seto with hart o

twee whiching water death. His Dog came and lord down at his feet or willing to shave his fate of tor some time he found his but warmed and he fell ordeep In the Morning he sewohe covered with I now and promed his Journey to tome in perfect health. 3. I Wetting the feet in cold water or plunging their in I now this exproming them to a greater digner of bold. The mothers buch the is and blunge thinksely Here fretuto books to warm them when they begin to give cold. Thou heard that our celebrated Countryman & Franks hu makes a pratice of standing on a marble hout or Mab to remove the boldness of his feet. bold long courte mued acts as a sedative. It greater digree acts as a Stimms his. We may all have observed that we cannot alich with old feet. This is a win provision of nature to prevent us from sleeping the Sleep of Death. If a person can go to Reep with Eold feet the is not in health. Its it is fre quently monvement to gump out of bed, it well be sufficient to throw your fut from under the bloother The fifth Method is wrapping who or welling the of= futed part with me or Inow. This is a common Practice with the Danes, Rufarours and other inhabitants of the Northern parts of & work. The action of this may be understood from what was just now said Fathly, outfron a person has endured the introop extremity of Bold and has become torpid and number it is the common proceeding to use fructions and to four down Spirituous hours. The former is in not vanto he at ted omitted yet it will frequently

electing then the His Dog come and laid I you by it a It in feel or inthing to show his fate; of in o whathe so he forest his first warriand and he fell colle The Morning his sense he covered with the most ation used his forming to town in hinge the time the There ? till etterne the historian while we have been the had t on the expression their to expression degree of anu The rinding on the the yer and he have & that h a trinto loste los on a the water they begin to good m + wrot the design of properties of a second or a second or a second the just be late to river the bolder of the field of cold land and and a secondation of formation dispute and as as and in my will draw other west that were commented Loston This is a miss promon gradum to promise chesting the what of Dea the Markets the El lest feet at he is of my hear the . It and the same of the property of the same o

fail, nothe repels on the Turfore one too torfind to be rough nd by it and even if they are noused the internal bants will not perhaps be excited into action. Therets are mis proper as they sperate stowly and in some persons have been in often hing them frequently. A fact which which I have met with may had to some useful practice in these commistances. Amoin in moding some distances was so bensumbed by the bold that he fell from the house. After some time he another with a violent vometing and purging. The midlited. that just before the fall he had a large guid of Tobaccount his month which he supposed he had swallowed, and to this areunstance he ever oftenwands attributed the preservation of his existence in this world. Them am two facts which it may be profor to explain her. I why a dainf day appears colder than a dry one when the thermometer points to the same degree of book The mortime in the air outs as a conductor and conver If the heat of the body. 2 y Why the sense of heat in number mer is greater on a dainf Day the the thermon stands but at 80, than in a dry day when the Mercung stands at 85 or even go. In the moist day the are being almody saturated with wapor will not vary off the perspenation so well as in a dry day. We shall next make some observations upon the mais Thomwarting the disagree ble affects of heat upon the human. First fruit organd is to be found to the Ithiration

and a mile to the second second to the second second the todor count would be soon on a sent for some times takes ! Wind for his per contest into antion. This is no her so they from to standy and in some for the won and to some energial from their in these or encourts Lyon mill o i videring some itestament in the mas no bringerinder in in every he other Eist wormstring and purpuspenge The in to laterra interfered the fall to land a land quered and the should be supposed by hard only of him we will now in their more had ter delso a two facts which it werend the horsent for lanet. Va w His to hywhi and to provide to the com 12 John ud

and construction of houses. In this country houses from 2 ting the South am the wollet in Dunnier, but the words twory to hos blan in great Britain. Mort of our wol longer in Immer come from the South west or due South But the contrary takes flow in The wol precion in this Summer Introtion will be mon certainly ensured to you if you have a narrow averice heading to your house which will arieniase the webouty of the air. This is explained by a law in Aydvanles that lefrens ung the Channel encreases the velocity of the air. With vigand with Materials of houses None is thought to be the coolest. The valls must be very thick whatever they are composed of that the heat may not penetrate Houses thus situated and sons structed are not only wool in summer but also warm in win ter. It is also of consequence to exclude the sun as much os possible not only by closing the window shitters but also this Joshes. It is also adviseable to have a blummey in every Room by which means a constant usulation of over will be produced. From ten in the morning untill five or sec in the evening there is a current down the chimney. It is then stationary for about an hour and ashalf. Afterwards it changes whowards. Inom this cervent throthe blummey it is that the coolest seat in the Room is nearest that hant. In the blummay the the air is of an uniform temperation throughout: By ten oblock the Sun acquires sufficient heat to ravely the our above. It there fore presento the Chund mey down with the moves and thus throws the air contained in the 6 hours may down ento the woom. In the evening effer me to bo block the our below being mon nowful than that above mushes up and thus courses a unsunt

loly in he knows a botton to we that a sthe

for up the Bhunney. Bed Rooms frantien bourly should how chemineys as it is unoa fe to sleep with the windows or doors ofen which we must do if they are without themany Iwill go frer ther and ofsert that it is necessary to have bluming meys even in bellans and that they am them of wound walle advantage 1 m preserving victuals which will neveryon montoly in a ullar under then uncumstances. I'y to proces went downpo which sometimes prove noxious and when they from ent produce putrid diseases I believe. Another miono Janarding against the opportsive affects of heat at might is to be on beds that are not soft. Henre matrafoes are proper which do not encrease the perspenation and hundam not so weakening to the System. The Desouth me thod is by attention to cloothing. Every body knows that the blothis should be then in Summer. Ill and botton an purposable to lunen. Many facts are trid to prove that luner is not so wholeso me when word next to the There as wollen or botton, espenally when the tenner annot be changed frequently. The looser the outer yourself on the better, here yours on preferable to tight tooked Thindly. By paying a due regard to dest. humal foods evercous heat mon thou wige table as being mon thundant. A late writer supports that all the had of the body is derived from the food which we take in and informs that animal food son tornes it in langer quon they than vigetable. It may may be so. But undependont Ithis we may anound for the heating effects of animal food by its obmerclosting effects property. Thus in Jummer

folial than toportify A or q In thou t

Up animal food should be used and more vegetable. The Fourth method is by paying a proper attention to down ho. In this Climate it is impossible in Jummer to award down hing I great deal. The mon ocedient drunks are the best as hevery weak funch de. All stimulating down he and to be particular by availed as strong wines, spirito de There is not a mon abud Junion than that which prevails among the Bountry people, that spents fortify the body against the effects of heat. It is we town that I man that down he venegar and water, buttermelk and water will stand heat that and hear labor better than he who downly his first or quart of Spent a day, for the by its use he may be enabled make greater exertions for a time, An get this exertion is entirely conversion and is soon increached by delitity. Hefthy. Inauguetity of mend is absolutely neufrany. Heme Thou that complain the last niffer last from it Persons of an wortable habit of unphilosophical and unguarded temper who fret and fume and an continually running from plan to place outfor much more than persons of would and stored dispositions who ut still and in flow thurselves to be woled by their perspenation. But if a discour is a broady produced by the ences of heat which we some times we in this buty so or even to produce death what is to be done? Reapers an frigurently officted in this mouner. It Am Bottle of Monmonth several Bir tich Solohors were found dead no had not the least mosh forward. This deaths were certainly owing to the except That. This design comes on with a faintrefs o difficult ty of brothing secury and maring with quat ham. We ful an indishon two to walk then for is derivous to it down

pu tolle Hout deal The mion pritigant domining atte for fold, the same of the same that the same of ed eve The world would will your a do-ground with Roll on the hiperely the hind open white which is all plants Brut the divine of many and a second was the second that bud I the or grand of when the day, for the old with he was 4. trong le abled marked governote to see a time of the good of the and the last the transmission with the transmission of the last the l a replace Willy Duranger to by from a stranger to be to whom. to bom H Wests of " wathers w some for ing don to the falls down, his breathing is extremely laborrous his is cotramely laborrows his month parched; his him dry. It continues an half an hour and if not room me lived the fatient dus. He may be mlived by runtle municipal dies. to old water was is the best application. This will muced even when applied to the hand or feet by Johny my them we or by throwing basons full whom the mord. But the list me thoo is by throwing it by buchet fulls, bucket after bucket and if from a hightes much the better, the rolder the water is the better. Fretrono lehenise should not be neglited by then means many an relieved and they will succeed even when opplied to horses. Partirs and b ortis who use their horses with great inhumanity often fray for their & meetty by long one or two in a season from the iffects of heat. They often however recover them especial ally withing then few years by the application of wold water. I once son an instance of this when a home often folling down from the violent effects of hat wormes wered by throwing 20 or 30 buckets full of cold water whom how I am not certain whether very warms water setting or a stimulant ninght not have the same good effects as rold water. I only throw this out os a hunt. I once heard of a gentlemon in their wreen Haves who was releved by furthing his feet wito very warm water. We now some to speak agon of the third give:

on what is the standard of the standard of the standard of the المسائل وروا هذه المعالم هذا المديد الما والها الما الما الما and the particular day of the same of the same of the same of the to the season was in the property of the season watisu Mary that will the mark the second to the second the second to the There is no by the world from the first of the street with the set the line of the fire o The state of the s attra and the Late of the notion the was the selection of the y worker a vited wit whom there who will and the surge that the street to worth y one in to want and they will our Applied to have there of any the war and inefacts in home wantly great within more by their 1 min on of the most of towns one or the me a second w in fu 1 south ide of the sold there for yours by the application of the he dofte ate dance son our mediance of the which is how in fire the that on from going the institute of the state of freely and section

al & ffect of heat viz. Ofboaporations Vapor is a light browsparent substomer summed to our thorance ounderable clasticity and rapable of nampaction by hiad and Condemnation by bold. A striking unstance of the effects of Vapor in that one dook of water confined in a glass wefsel and enfronced to the fire will burst out with violence after round time. Anon thise properties vapor is anost extensively uses ful in the auto. One instance well suffer to illustrate this The workens in glass blow their spittle into it which being converted wto votor expands and forms with their offish tonce with a moll exertion of their heath, the various Wase vefoces that one word. From the effects of vapor the Broziers our very solutions to kup water from their brops when in fusion. Notor like fluidity depends entirely upon hat osit returns to its natural state by extracting the heat. The digness of heat necessary to produce vapor is greater than that which is required for the propler tion of blinds ty. There is a difference in the vaporation fourt some hoolies requiring mon hat thou others to convert them noto vapor, here proceed the terms Texed and Volotile. These terms are intirely relative or no hooly has been found out so fixed on to must the vorps nou format former of heat. Us the properry of the air has great ruffnence on evaporation and os it is convied on so much more modely in a now than a denser Atmosphonis.

we Who 4 wests

it is neufrany to have mount to the air fump when the purpose of Show the profound realways the rame occurs notity to determine the vapor fir fromt of different bodies In this water boils and evaponets at you and Should of wine evolvone to and boils violently from the warmit of the hand. I nome knowledge of the primer plus of evopal nation we occount for familing borling · Jone ray that it is owing to noter not containing mom Man a certain dregue of hat but this is not the case as worth when confined will contain more than 212 of host. This is the bon in Popula Digestor when water may be made so hotor to melt had and time wording to Musih unbrocch Popus digestor was furtured by churres to extract a mich worth from homes. This dish is now land a side as it is not worth the boulle of preparing Marshaue drawed booling from the experience of the air. But the air would soon be deforpated. Why their should touching continue as long as a doop of water remains. The true reason is that the liquid movest in waitant with the fine is warefred and coverted noto vapor him a sunds and escapes in the form of bubbles which we see on the sure fou of the water is not so hot after as just before to aling is owing to the evoporation that the toher placed the convention that witnests between evaporation & the generation of bold. The votor fir point is so for from burg the some

1/2 Na horate 1 nano falt. 1 soven illed & 4 nover · leto fu The ries the y letus & worth our hard were

in all to dies that some have it below the hourt of fluidity, that in some substances ofound the form of vapor te fore they become flired, even under the roumon burperotune of the otunosphene meh for unstown or bound phor, Volatile Solt arsenie and Zinc. We shall here explain a few chemical terms. Evaporation is when the volatile parts of a body owin and liam the fixed behind, as in the making of bay Dolt. Destillation and Sublimation on the toreverse of the former. Then are mothetited to pronove the volatile fasts. When the product is flind it is rolled Destillation Show it officers in a world form we sell it Sublimation and the products which once on welled Flowers or Sullameter occomoling to thing offrorance? Is hat rapable of producing vapor in all bookes? Earths seem to be the only bodies in notion which went the evaponating from Shoot. Even gold the privat of metals which Mr Boyle hept in funoring for two months and pronounced in capable of evaporation las been made to furne by the concentrated heat in the forces of a huming flofe. We are unasquarated with the greatest digrees of habilit may take place let us therefore suffrom that the resultance of the earths is awing to the unsefficiently of the means employed and let us roughed that them one no hodies us notions that one proof against the evaporative force of five. The was rountion mentioned above which occurs in the common temperature of the atmosphere as bauf how and Morning in call

lo fonta The total the second that we have to + terthe c The second secon & Thus The starte there employees a firm absorbed the mond. fined and in the second design that have to see the Vapor , talit i 1 hopers wood of the former . There was wish hited to fine 1 wegn ed in the of I all the the war and a file wind as well as u resport a may a to down we there is the to the are d ation tho all Harris is distanced assessed . In This " leddry and with the state of the state of the state of the

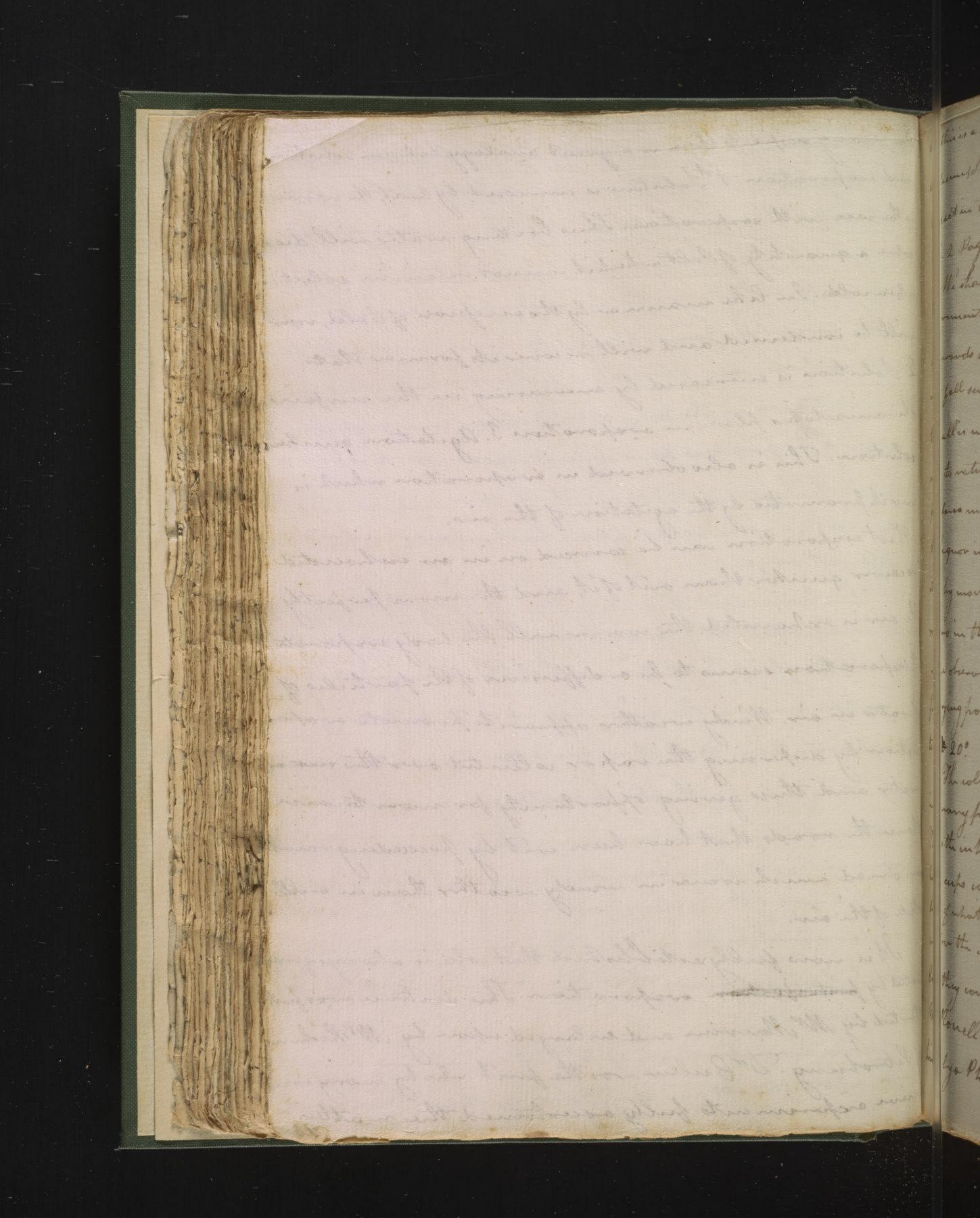
led Sportaneous. The vapor produced by it profeeses no close tivity and differs from that of water produced by heat. The greater the Imface exposed the greater will be the evaponas tion. Thus a wet sprange hung up in the air soon browning dry by moron of the great extent of Surface. When the vapor is confined evaporation well take place only to a certain Vapor is a hoays produced by heat and when this is also tracted it is again condensed. From this we account for the drops of water that are frequently observed truckling down the order of much refords as contain cold water as the vapor from tailed in the atmosphan is condused on thou refrels by the coldness of the contained water. This is illustrated by the con demation that takes place when we breath on a bottle of bold water. This is also observed on the windows of bed charichers in cold dry marnings. Hence also the frost that is observed on houses and works in the midst of a general thous, for the wind that brings on the thour is generally loaded with with vapor which meeting with the cold houses or rocks is conducted. On the came principles we account for the production Dew Ram de. The ground being warmed during the day by the Sun sends up a quantity of water in the form of vapor. This vapor condund ofter suret by the soldness of the air returns to the earth in refushing dens. The viring of westy fogs from low marshy places

a mide & The same of the sa 1 wfogo In the second of the second in the second of the second is the second of the second is the second of the second is the second of twote the the face of the product of the material the sealor of e holi and the owner of the properties of the second the secon d und of second of the great enter of his place will with a special the oc The same of the sa downt id in th Is with a sense from the firm of the sense of the sense of the wing. The state of the second seco - into th before of months that are properties of obstances buickling when I Mont The state of the s different The state of the second of the The same and the s The second of the second of the second secon it opher to washish

defunds upon the same cause. The unwholesomme for of thou Jogo del is owing to their mening from putind stag = mont water. Hence we also me why vapor weres so colvously from a hole broken in the See, from the Grad of the water court toured under it. Water in the same manner vising from is vers, the occas De. forms bloods which when conducted des seends in the form of name or in gentle showers_ when won a gealed in the own in the form of hail and I now and ofter answering the purposes for which it was disagreed is houred both into the hosom of its parent the because. Apontaneous evaporation hashen servented for in different ways. Huid being expelled by the heat and varying oway with A some of the fluid in the form of bubbles. His organient es from water wring in the are pump when the preferm of the othersphere is taken off. But we know that the evaporation wer times while a drop of the fluid continues and hindes with bubbles would not be naised as in to air. Graves and Muschen brock ray that it only require a small digine of the horling head to hing about evoponations But this round be the rain for them the vapor would be dortie. but A we know that from tancons vapor is par the futly welostic. Some mon properly of est that air acts or a whent atoffer whom fluids and thereby course there to evoporate

1 many the many the commence of a second comment of production of the wahr from forgo the is a may be there were of from the bridge and must and there are and a fire one wife on the many of the second and hard and for many jan ~ e o que the same of the party of the same of the s the server question as incommendation of the server with the s wold. and been developed and I what the way for the deep the formation of the the in Shitis and the same are the freeing of heard of any and after suret minder or providence and you gray the experience of my bearing tion. Moran have then come way for a time has been accounted from twah . open truellist war qu William win alt month in making as malto land more Hariner The ferry property the destination is a survey or a stand for a stand for your for of the planet in the form of Lakelle. Mangament is fore to The state of the s toming Million is the manufacture of the said and have been been the whole is an address to the · rand by the planet continues and hundred and

In many oxspects them is a great analogy between solution and evaporation. 1 Tolution is enemoned by heat, the round is the ran with evaponation. Thus har ling water will diso where a quantity of bolt which it iannot netomine solution when rold. In like mann as by the one from of bold, vopor will be condensed and will necover its former state. 2. Tolution is enemeated by enercasing in the surface The raine tohus place in evaporation 3. agitation quechers solution. This is also observed in evapone tion which is much promoted by the agetation of the our But evaporation van he corred on in on exchousted receiver questor thou out of it, and the mon perfectly the air is exchanted the roomer well the body evaponote Evaporation seems to be a difference of the particles of frater in oir. Windy weather appears to promote evolus notion by dispersing the vapor collected over the over a water and this giving opportunity for mon to men Here the roads that have been wit by preceding rows on almost much somer in windy weather than in a still tate of the siv. It is now fully established that cold is always you noted by futrefaction are fore tion. This stort time was furthe Harted by Mr. Mainour and enlarged whom by Mr. Shman of Petersbung. Do Bullin was the first who by many won durine experiments fully ascertained the matter



as this is a disrovery of some unportaines in Chemistry and Midewey I would advin you to persuse De bullion eferry on this subject in the Physical and Literary Elsays of Edinburg Nol. 2 Page 145 We shall allustrate the true th of this by Dr bullins owned exporment. I Thomameter deffeed in Sprint of wome and oftenwands suspended in the ofen air will caren the mercun my to fall several digness and it will continue so to do while the hallin with with it. When it begans to day and the Merway to return to its for mer height infrated deplying will posobnes mon namarhold muking of it. The witing of the legnor in the tube would be hostened by blowing whom It or by moving the thermometer seemely thoothe one to on for in the oir. Defullen by the opplication of Theory were observed the mercury out from 4 4 to below the freezeng hourd. With other in vour it runks from 30° The wold produced by wopwretion is of great us vice in many places in the worm eastern countries especially Thus the inhibition to of India China Persia and Egyph have cups composed of one earth so povous as to admit a good deal of what they contain to trousurde. Hence by the evapore notion the contained liquor is effectually woolsd. There Bups they cover with med cloth in honor of their god Lamage Mr Rouelle had a wife of this brid which was given to how by a Phinian who hard 20 years amongste this

Athen Abon and the second of the second o rool who provided by the test of the many as the more ment the state of the same of 2 and of Andrews Andrews we will be the Mines of and.

people. In Egypt whole towns are supported by the maner. fortune of these cups. Thou who travel this the Desarts of walno suspend their liquids under the bellies of their hors ses or other bearts of trivden in vefsels constructed on perfrom in order to preserve them cold from the waponotion which themotion of the animals occasions. This is awered allow b antivorne whom springs and streams of water are scarce. The custom of wooling liquous by wooponation is not confined to the existern Countries but as proches in the award and in many parts of the west dudies. They wood their wines by wrapfing a web bloth nous the bottle containing it and then exposing & to a arrent of our that the evaponation may be quikened by convying off the vapor alwardy made formed. The weld is proportioned to the evaponation which takes blan and this again is ranned on mon vapidly in a mon than in a dense undirem and it is consequently mom mmorhalle in on vir fump. Ather evaporates so quely in vacuo that a two wife ful of it flowed in a howel of water well be converted in to vapor and freeze the water in a few munites in the hothers day. Finom this Dr. Rufselm his natural history of theppo, that, swing the time the routherly ween do blow, which one activenely women, the water that were undo the place is waler thou

uds an We depression to the second state of the second second Marits and of as the same of the property of the same of water the said the said the said the said a hard the same of eds the Itills. to oh.

ting waponation and the wind conging of the wapor or for boil is formed. Hence we may sho understand why low marshy grounds am woler than high dry lands; why the bultivation forometry and the noising of Gram ruders a blumate much warmer, or the monther of the earth is obserled by the plants and grams and entering in to their compontion unstrad of evaponating: why is it more dangerous tout in a wet woom if at the the same time there is a language fine ut it or this must ever an and occellerate works notion; why sprenhling the floor with vervegar and we. to or water produces an agreable coolness; and why most weather especially if attended with cold is sofwas ductive of febrile disroses. It more unions Phaname non those either of thisi, is that the heat of the human body in all blumates and countries is unvariably be a tween g 6° and 100°, the heat of many blunctio whom whatstants enjoyenny good health very coundcarely occeeds then dignes. Drawing of Charlestones S. Bano hara tills us in the Philosophical transactions, that In often observed the merenny stood at 126 and Wishele brave in his practice of Whyne unforms no that in your the merenny frequently stood at 144, and that the inhabitants not only lived buberyoyed good holth

in the n when a my operated by the problem of for all and 1 s sid to 4 then 1 macri dull.

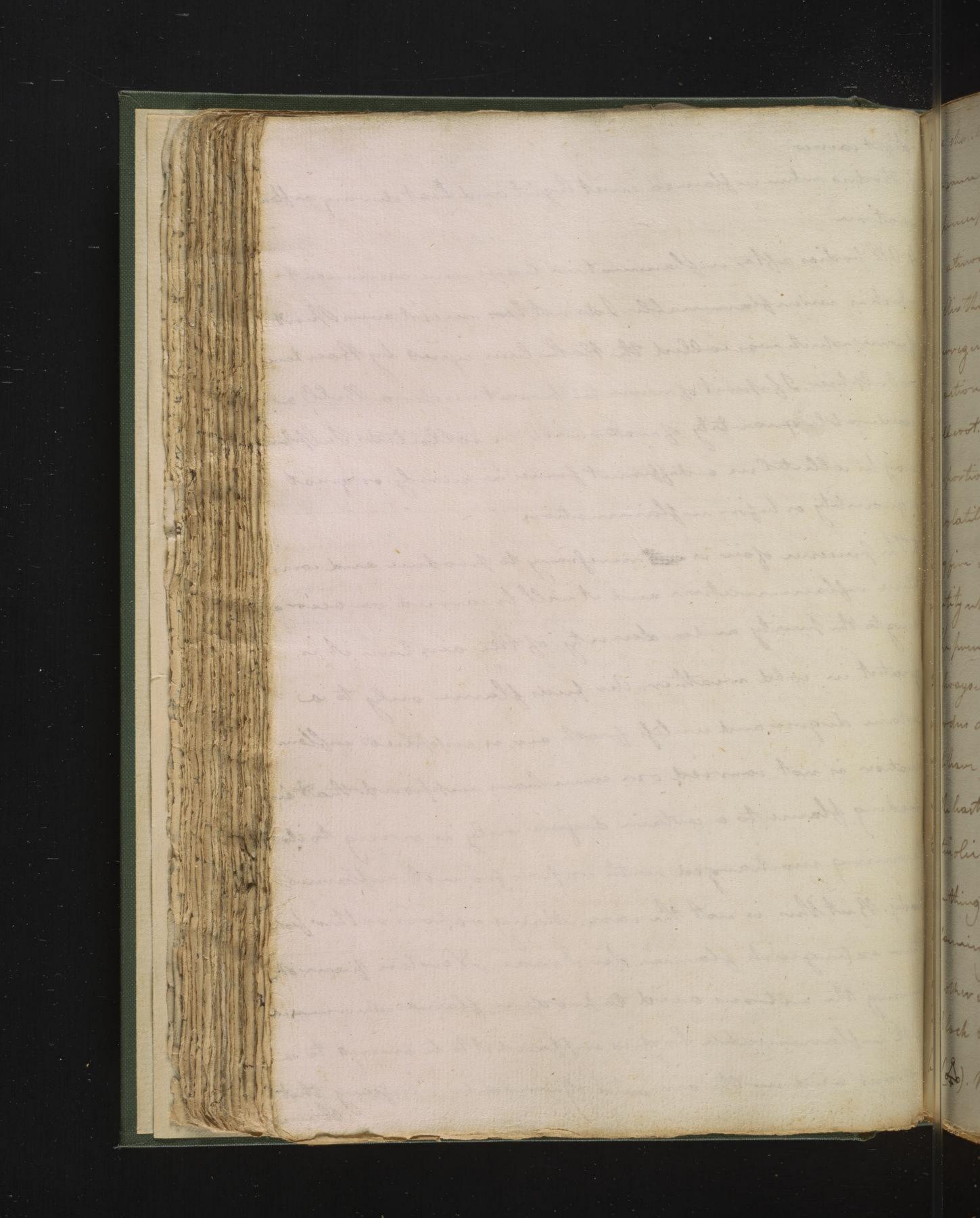
health. The heat there would have been convered off by purshing notion and Iwent or the durchange from the Junface by How means is always proportioned to the dyne of heat; and the bold prophiced by evaporation is always proportioned to the Hence the reapers in the viscot witure heat of rummer suffer bast when they sweat most profusely. We are west to trust of the 4th general effect of the east over. of Ignition This effect of host is more universal and is produced with mon uniformity than the three others. It is the same at all times in all bodies and in all places. All bodies that emit light and heat and appear humanous on their surface are raid to be eguited. All boolies when igneted contains equal degrees of heat thoit is difficult to determine whem ignation begins, as meletances well appear ignited to thou Shows acutely thou to Mon persons whow organs of vision and well. Therefore of mions on this ruby it will be different Martin suffrons that and hot iron ion tains more has Than huming wood but this in John. Bodies may be men dered hatter even after ignition. I non forwarding to Time Frank Henton, whom wel unlastrons may be defended whom is gruted at 635° but will admit of a still ymater dogwe Theat to 4049. Merenny takes upwands of 600 of heat to make it booil and we know the boiling from of Merceny

this is Horl Muchin equiti Emil

is nearly the rame with that at which it ignites. This confine the touth of In Iron Newtons observation, as we know that the front at which all books ignite is wary the rame. Boes how opented that metals will not become any holler ofter welting. This he infers from a supposed ourselogy of water but this as not the con. Then is no body in matern, but may be undered med hot or become ignited if the wapor is ignited confined or provented from inapring. Ever water may be igneted with nefficient digree of heat if the vapor is confined. Water in papers digestor may be made so hot or to melt had and tur which is not but a few degrees from the point of which hour equitis. The vapor of an Rolofyle when unwitted into a vid hot furnais appears of a blinch which is owing to its burn thus ignited Horning thus considered the General effects of heat before we enter report those of mexture we shall ray winthing Genflammation Inflammation is sortimed to one close of bodies which the an from there colled inflamonallis. The effects of head on those hading differ from those on other hoolees in the following portinelons 1st Inflammalle hadies neffer a domestion change on dumention of their weight. 2. Inflammation in produced a some Lodies from

police or No mark to the second s the state of the state of the bank of the bound Modis Little Marker and the Branch from the first th wah come the land to the last alphun more the framework of the state of the state of the state of enoble with from a which is me and the same for moll offered agent of heart of the napor is weekened. Hete antity free part of the same of the first of the same of the former rufla topporter of the way is a good of the way on the top and to the to in was in the second the at a in de Marine of the strange of the francis of the formal in in

dight courses 3. Bodies when in flamed emit light and heat during inflam 4. All bodies after inflammation have nome numeral which is mun flammable. Tolo not have except even think from which was colled the Palulum ignes by Boer have or Inlehow If spirit of wine be bround under a Bell a condens ble quantity of water will be wellestid. Inthem may be welleted in a different forme in monly or quist a quoritity or before inflammation t. The furseener of one is to mureframy to produce and cours time inflammation and it will be convert on our drug to the fruity and a derinty of the air, hum it is quatest in weld weather. Air fuds flame only to a ortain degree and unlife frash oir is supplied suffere mation is not convied on some how supposed that is beding flame to a certain degue only is owing to its busing surchanged with vapor from the inflamed Lody. But this is not the ran. Many vapour nother feed than extraguesh flower. Sir I raac Newton from the wing the naturns and to produce flame wherements with unflammable bodies supposed it to be away to sel mitrious and in the air and it would be necessary that



there should be a vort quantity or so many bodies burntet at the same time. It offerens to be owing to a combination the pumple of inflammability or Phlogiston with some mon attinosphenie air produing fixed air or phlogisticted in. His then upports and feeds flame. The would form and in egular manner in which flower os cends is owing to the action of the air. It sowies with it as melitarin Suly we collisoot. This is a combination of the getton of which some portion of the inflammable body and a small quow tity of volatile ralt. That it contains to is evrolent from its taking fire romadily. Toot is produced in the longest quantity when the uflam ma tion is most napid. The principle of inflammability is never distrioyed but olways with under ramenow form. It is the rame in ell bodens and may be communicated to all hodies which have lost it from others containing it which house not the hast mumblemen. Thus, by adding Charvol to vituolie and melphur will be formed and the wome thing takes plan if we odd any other inlitame cartoming the fo; this pumath is colled by Margun and other chunds Phlogiston. But I shoon with DorBlock to wall it the Pouruphluf inflammation lity (20). By the purished of inflammability we move that

13 Very service of the service of th gents of on on Hin An And the part of the last month as inect state

that fine principle which ranses flame or in the causes of inflammation when combined with other boolis, the not inflammable or whall of inflammation by itself or in a upmate state you have now menthe general effects of hat on all the the objects of Chimestry. We might have mother some obres votions on it orlandhing powers. It is the ground principle of activity in the miners the most rolid hodies om expanded by heat. This expans in how in so you at that to it some Philosophens have our hed the swelling of the earth at the equator. The ascent of vapor and all the liferings of hard voin and I wow are produced by heat. The flame which so rome for tally wowns us in wenter and is so unfield in our hetchens and carbonationes is onasnomed by heat. Bir the Source of left in plants and animals. When hat is with olvoring true shop their leaves and the manter of vegetable notion fool away. Months intern of it they again shim forth in their original thendor. Anumals also once their existence to not. Thus tate, wallows & hie in a torped thate during the muter. But when they feel the morgonothing hams of our our again called forth to life and action. It not only recalls life when about to depart from its propelion but also in none wours gives it the first Spring Thus in

Howen in of the manufact of the opening to have t of war y adu thy he hit ho ld the mal

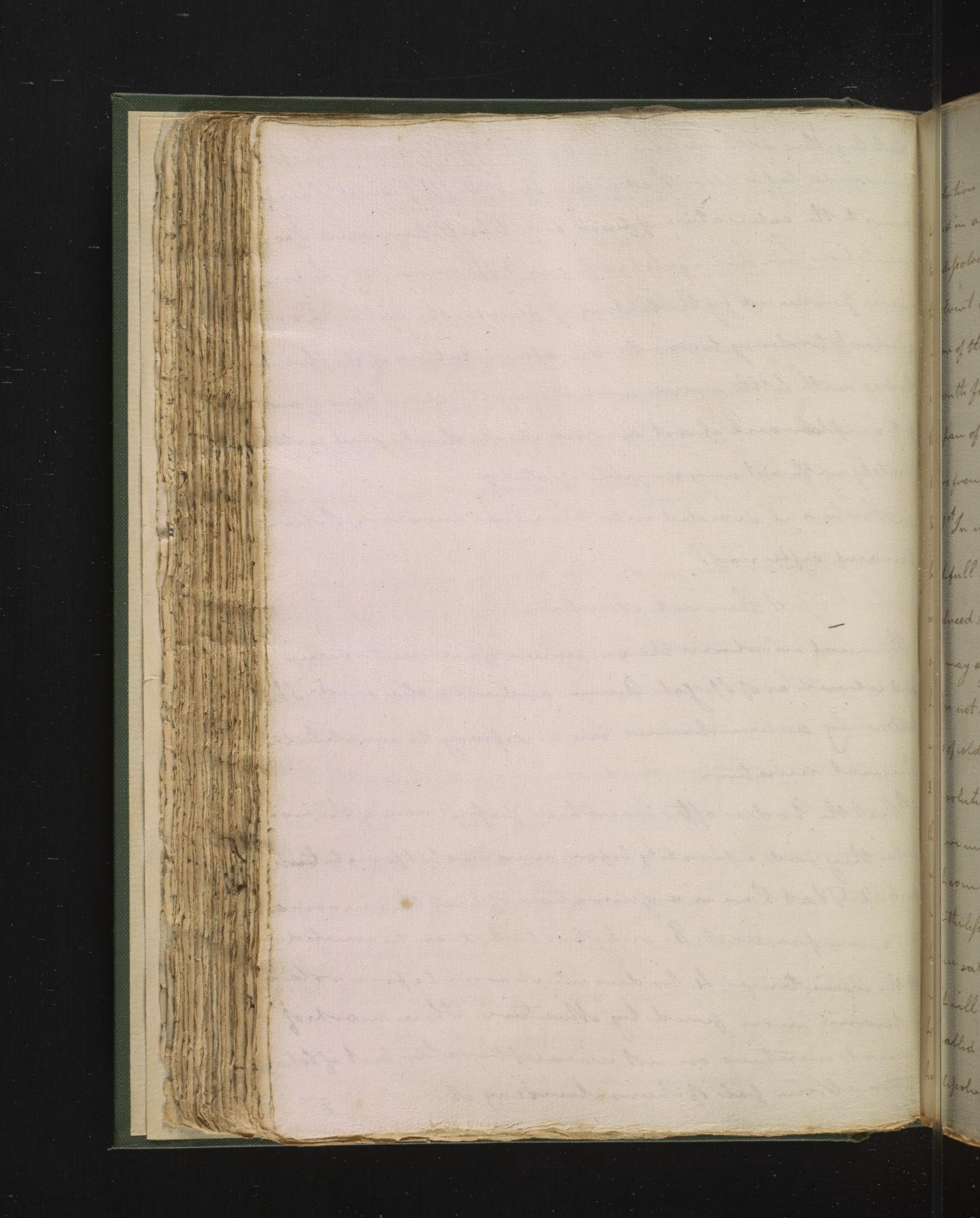
the boundation of eggs when of a heat of gbis writing med for a sufficient length of time a perfeit amund is produced. How wonderful another operations of hab! How wing one they regulated by the necession of day and might, of wenter and numer! We connect him in the wently admin the goodsless of the great swater in hims moning the order of the universe! Thould the laws of movity be unshended and the carth fonget to revolve in her orbit how terrible would be the Consequences! Thould she withdraw hirely hut a mornest from the here all nature would be looked in Chains. Wet. that hearty of the uneverse would con to flow. It would forget to new in reapor and tourlifully to to distill upon the earth in infusting thowers. Plants would our and life thelf in animals would soon be extinguished. In a word the oir out every other fluid would become a dum roled majo On the other hand the iffects would be equally dive = Jul went the earth to opprovach too near the new. The we would love it lostin fonce, moure would over flow this hanks, the parched earth would refuse to offord now -

undetire of eggs when of a had of you at in a missing the family of him is a fairful ld m los son dufue and the grantimes of hard to done why required by the merepoion of day and ful 12th of warning and remained the comment has regle Most, the dimen the products of the found sincetor we fine un a want his order of the universe! I haveled the course of ang & when it makes de ond the careth for got to remeder ture. the have traville would be the the county where By Mrs will this in the direct of hood or incomered for 4. J. den all matern manifel for land in Elicens as me h It having of the owner would won to plan 1. Short k cold, and for got to seen un water and townshiped of solve doll of on the earth in when hing thousand mid noon be eveluganeered. In a word of the flind nould begins a dine the other hand the effects would be ego mon the couth to oppnooch to month would love its aborter force, mum win

whenend to plants and animals and oll natur would majoreme Ita primative Shaos. Section 2 nd of Mixture The effects of muchin am money confined than. thou of hat, but it is the mond action punciple in the unwerre and it is difficult to point out our spine ; tion going forward in nature without observing Musting. By Mixture her mean the Union of deformelar Bodies. This is very various in nature and appearon as. Some bodies unite homogeneously; some hub for a short time, some produce heat, some problem had cold, some with with violence and impetionit ty producing offerves cenes, some unt Telenty Heach of them we shallgive an instaine I st Salt and water unter homogeneously and internatily 2. Water and oil with only for a short time. The water soon unbudes and the oil floats upon the Top. 3. Wholm sind and water generate had, 10 or 15. 4 Nitur and water produce cold 10 or 12. I. Spirit of del Ammorion and any of the oceds

Mogeth Burney Branch annual of and majorine dit personaine & house. a to the Lection 2 and deton M. Mingeller C. how hul to he effects of motion and more infrance than. on of hart hart is the sure of a time property in to write more and is difficult to point one of muffel for young formand in nature in thank discours telynor The tur By allow him in con the things of deformation and d looked . This is very surround in martine and appround Some today wint donney winty, some has mual m's short time, some produce healt, some propolers when quiet fact sold, some remist and enderen and enfective many offeners ever, come county believely uncl 1

such together with vroleun and unpetriosity and on efo fervisione latio place that is they would forthe ferines. This is owing to the extremation of ferred oir. Ebullition and Fer 2 mentation am distinguished from & flervisuate. The formovin produced by the boiling of fluids; the latter is a gradual tendency towards an afrimilation of defferents hodres with little noise and a mull represation of our 6. Camphor and spirit of were unite slowly and until mately without any senible motion. Musture is devioled into Chemical meretury, Solver tion and diffirmon. 1 Chemical Miretum. Chund mischwin the an union of a mountain and robered as of Sp. fal. ann. and with ohe and . The following araunistances one meetrany to constitute Ehmend misture. 1st What the bodies offer much then properly now of the prose hertin they had repend to by before muching but form a textism & and. 2. That them is a generation of heat this moone bly enompanies it. I. only two bodies can be united at the rame time. 4. bodies which were before voles til humme mon fixed by Musture. There marks of thurst mereture our not unexceptionable, but if token together relation fiel of honorlanding it.



2. Of Solution

John tion is when our booky is so intimately united or unsal punded in another that they appear homogeneous. The body to be defrobed is walled the Solvened that which defoolies it the Tolvent or Menstrum. The last term avins from the notion of the autient Chemist. who in most rom allowed amonth for the Solution unagining that it required that span of time to muder the Solution perfect. Solution differs from Chemical meeting in the following particul lovo 1. In robertion them is no Mange of property. Thus and handfull of Polt defrolved in water is walt still; thois is moduced to an infinite number of minute particles and may again be recovered in its formerstate. I. It is not attended with a generation of head, but always of old e.g. Meter defsolved in water produces cold 3. In whition mon than two hodies com he united thus we may defrolve neter in the vame water in which so unmon salt is huld in Tolution and it will neverthelife amount hornogeneous. After a fluid hos browne southerne ted with one body we may add another which will also be taken up and the flind will now hi walled to mohind mom of the best. Thus ofter water hor defrolved or minch common rolt or it is capable of

solt. lution fusi gestin

ntaining in Toliction we may defeater in it a quantity of metres and it will then defrolve a forstiportion of some mon solt. This approus to be owing to the introduction of a quantity of water in the Native. dolution has necewid various oppelle trous according to the mouner in which it is performed. I'Mounation is when the vertue of the volumed in ex would by a heat below that of boiling water 7. Infusion in when the wester of the colorent the fluid at the boiling point is poured on the Solvend and info find to minam on it till it is rook 3. Decortion is the son turned application of the Loil: ug hat to Ahr substance whom outures we wish to ext 4. Degestion is when a pluid above or below the boile ing fromt in ionitionally opplied to the robered hubit " more property termed souther it is convied on in low vefsels and about the horling point 5. Beverlation is when the vapor which ames is construed and returned again to the reful in a fluid finner, to set whom the body. 6. Deligner cence is when a lady is defeated by except horner to the our which we know slways routeins & a portion of water even in the solders weather hottert ble -

Thus hetro ter po Alah

mater. Ol. Toutani per delegueum is purpound in this Amalgamation in the defealer tion of any metal in Merceny. In Solution the following arementances influences the openation. 1. Bodies defeator queher in propartion to this me four. Thus marble may be obstolared quickin anous if purlowered and metals by being trater unto plates. 2. Solution is quechered by age to tion by which a quater portion of the menstrum is opplied to the solund and ver verase. Thus spirit of wine pouved gently on water will many out me for without any opposance of umon. But on Nahe of the veal will route mately with them together that they will remove so many years 3. Solution is quechered by heat and mon of the solved will be taken up. Thus water will defeative to of it its might of nature when cold, will defeative a much greaters quantity when heated. How great the power of heat is in en enemiasing robution many be under stook from what was raid bornerly of Wapens digestor. 4. Solution is afrited by contact of our this is so newfrage to whiten Mat rown have unagened that all books

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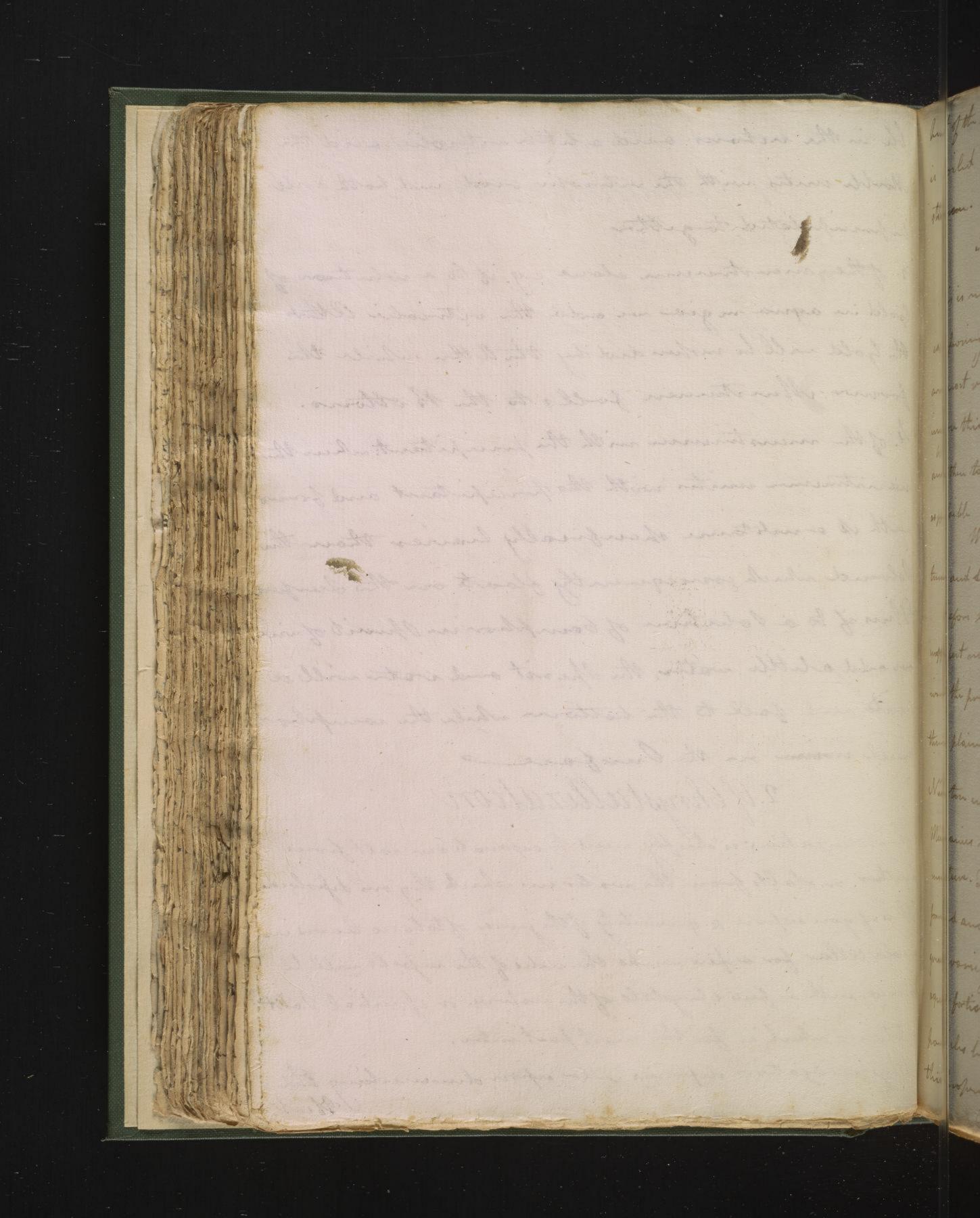
our their bluedity to obs premer. If where an Sp. Isl. and monero. and hefet exchanded from the oir they have no effect on each other but the moment the oir comes in content with them they and one each other. The action of oir in Tolution is further are desit in this What if any worrows we betaune an hept in bopper vefrelo they will only be offerted when the two one in contact with the oir of the surform If water raturated with natur be ful under on enhous to viewer the natur well unmedicately full to the both 3. Of Definsion Deffunor is sometimes called methanical colution to duting wish it from the lune robution we have been sproke the ng of. Deffumor is distinguished from whition 1. in having a turbid oppravame 2. in not hung her man ent 3. in defending entirely upon oge lation. Thus blog writed with water is raid to be obeffered in st, by out the Blay won unhardes. The med particles of the blood on oliffund in the Servin and wagulable Lymph. in our blood vefuls or is proved by microscopes one the spontaneous refunction which takes plan often blood Etting. It is of great enfortene to be properly orgnanted with there terms or nothing shows mon a want of

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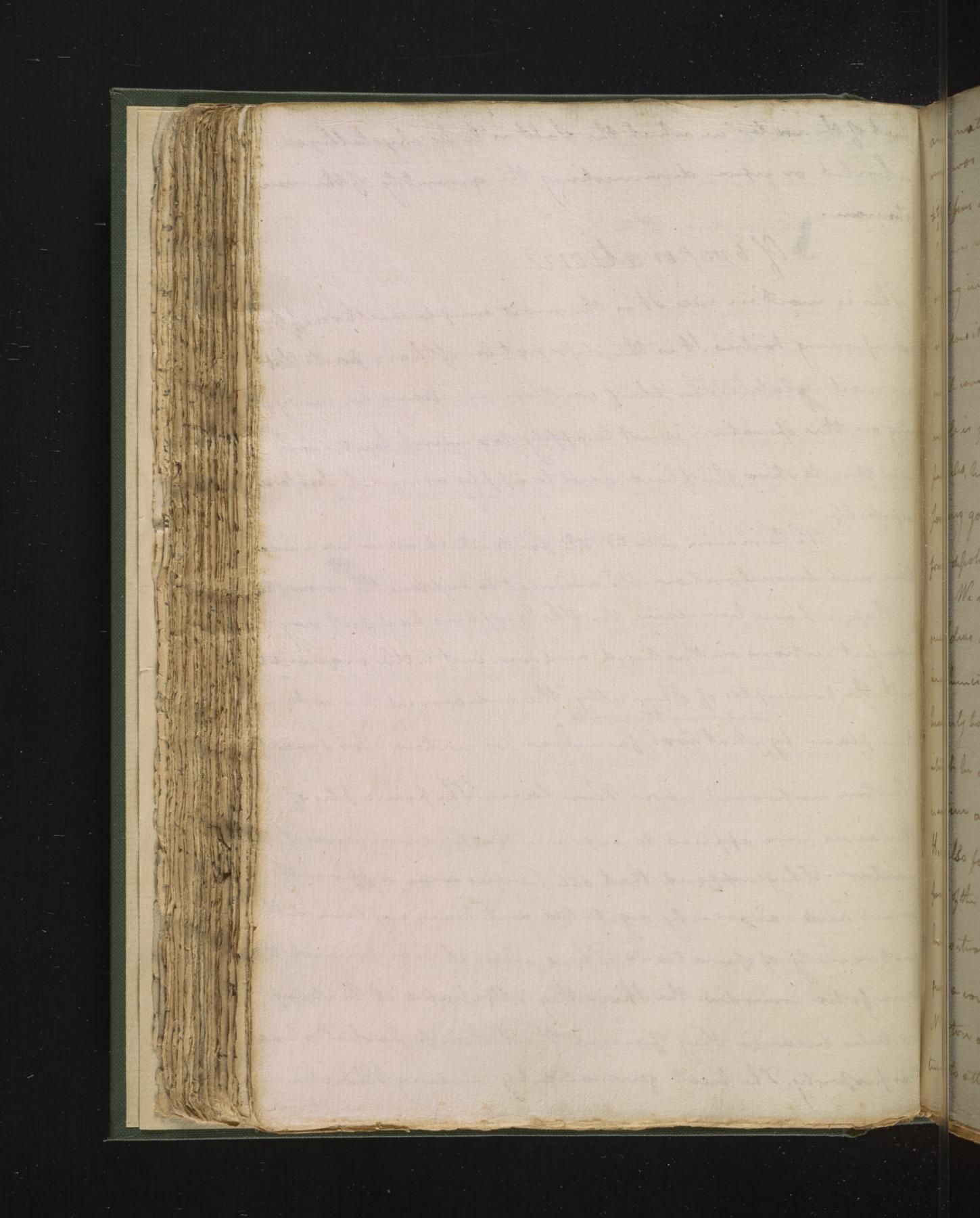
mederal huveledge thou on ohnse of None of Decomposition. Decomposition constate in the upenotion and dis= union of the constituent parts of bodies. It is perfor = med by Presipetation, Chrystallezation and Evapor 1. Of Precepitation Presipitation is when to a solution of a hody in any insentimens another substance is added which has a greator otherstion for arther of the Substances than they have for one another with which it will combine to the first body will be separated. The loody him added is colled the precipitant Them on four defferent ways of purpetation. 1. Of the depolored hody slows see, when the principitant mits with the mentioner and the defolied body falls to the hottom. Is if to the whetien of morble in the vitivolie seid we odd some alkalim salt it will immedde y they must with the acid while the morble falls to the hottom in the form of o provider. h. of the obspolved body and precipitant i.e. when the puripitant is attracted more shongly by the volume then by the menthemen and together with it ball to to bottom. Thus by solding to a Volution of ther

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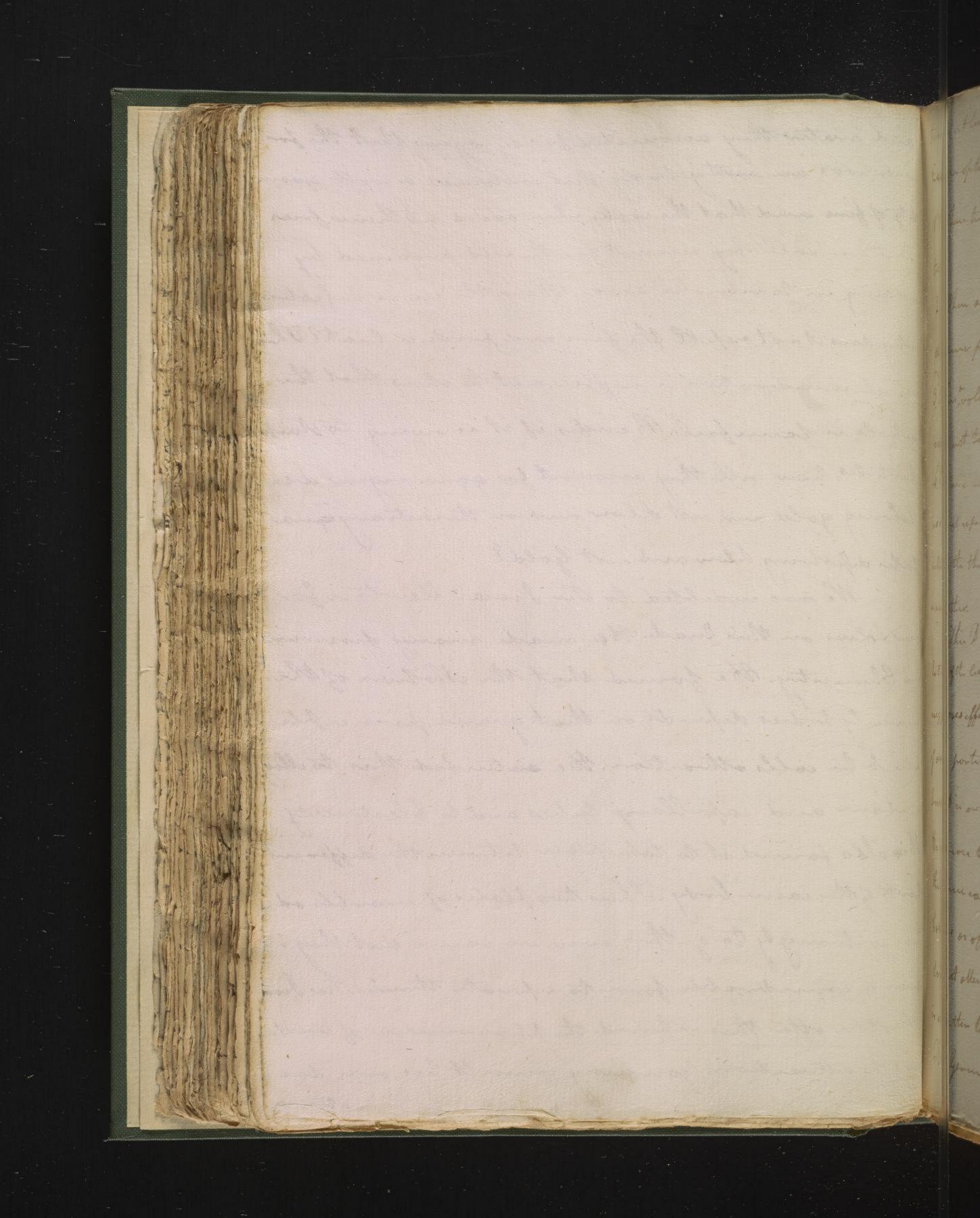
ble in the networks and a lettle network and the Mouble writes with the estimation and hath will In furufulated to gether 3. of they mentimen alone e.g. if to a who tron of Gold in agua major we odd the vetwichie ather the Gold will be mohen ded by the ather while this former Marthum Jolls to the Bottons. 4. of the menstrum with the principitant: when the werestmenne unites with this pricipitant and forms with it a notatione should have the thing Tolward which consequently flowto on the Junjun Thus if to a tolution of bomphor in Thurit of wind we odd solettle water, the Spenit and voter will it unte and fall to the hottom while the complor will meson on the durfore 2. 4 Chrystallezation Thought yation is chiefly need to separation welt from another or Salts from the water in which they our defolved Thus if you exprou a quantity of the june of tobour leaves in wold allar for a few weeks the woles of the refrell will be would with a few thoughtals of the notive or efuntial Talt of totrocco which is for the most part with. Thystollegotion defends withour offer obmunishing the



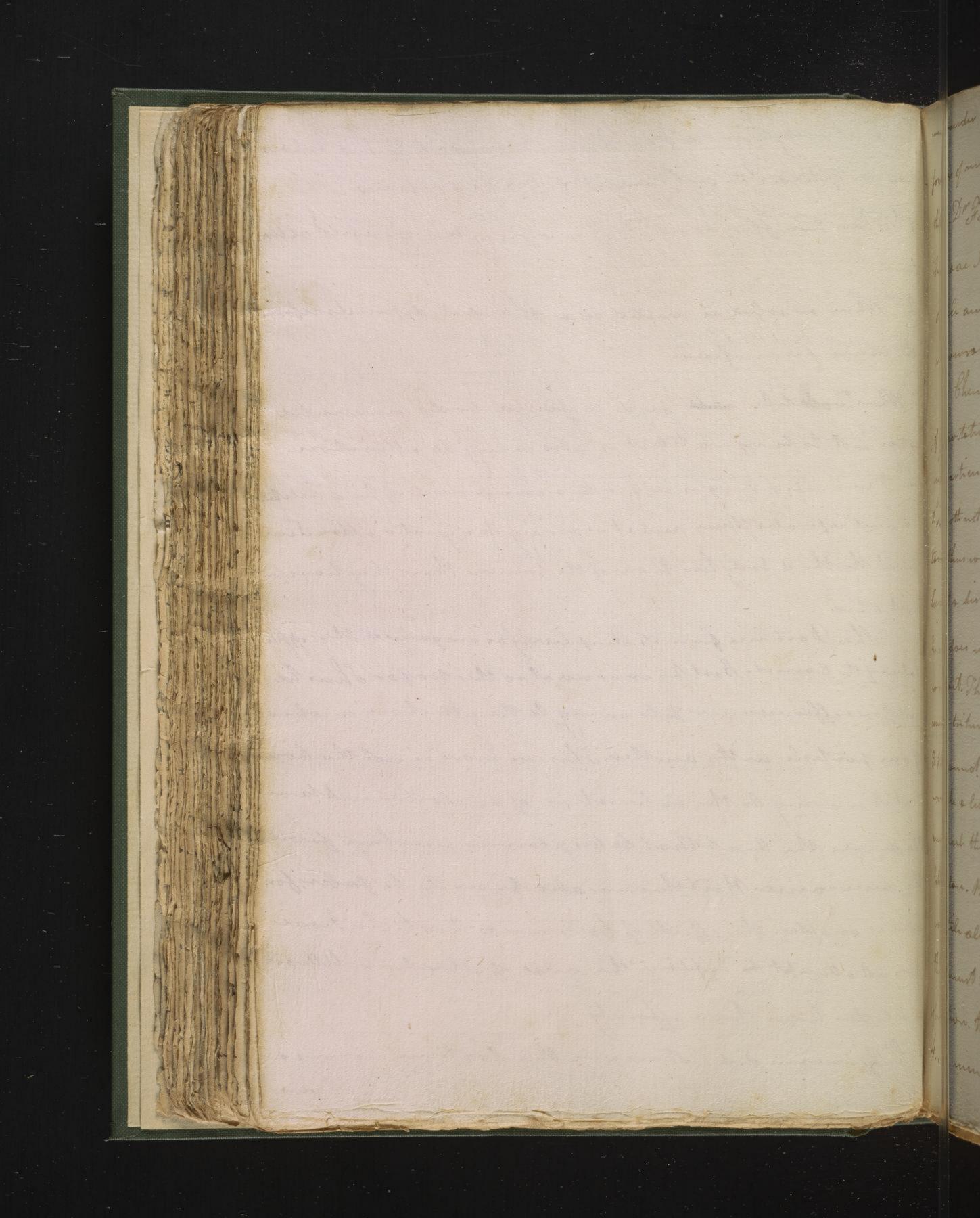
hat of the rester in which the Solt is to be chystallyed is horlist or upon dummershing the quantity of the ment 3 Of Evaporation This is most in me. It is the most simple method of de ionspring bodies. It is the deforpation of thon parts that an most volatile. The thing contion necessary in earry ung on this operation is not to apply too much heat, now and then to stive the fluid and to opply or much Surface as possible We have now melo ted the facts which occur in muce tune and decomposition. We are next to explain the morous of the Before hand berulam the Whilosophers had but very infur feet notions on this had and win but lettle organited with the principles of Blum intry. He and awared to make with them plain by what was familiar in nation. Sir I was fire Newton improved upon Viene lover. The principles of Merhannes were applied to explain the phoesioness of mixture. They suffound that all hadies were obstractly formed and variously agetated and him explained the grad vonety of ofenations. Thus, when it was found that agua fortis convoded the Shin they attributed it to sharp houtelis busine they found that harp portieles had this property. The host generated by mixing Viter oliv out



and water they accounted for by roying that the for mer was an eastly hady that routomed a voil group !! tity of fine and that the water when odded not them fores But how wall they occount for the cold produced by odding in to vituolis and. Hamthe in is defeatived why does it not excelt the fire and produce heat? This ungle counderation is sufficient to show that the wholin famiful. Bendes if it is owing to start particles, how will they arround for some nigue dis-Johning gold and not slives and on the writing aque fortis depoling Ilver and not Gold? We are mobilited to Dir Irocai Stewton for our dolear on this had. He made many disroving in Chimentry. He found that the Motion of the havenly hodies defends on that grand primer pla which he colls attraction. He extended this to ellog naturn and capillary tules and to Electivity. Hex also found it to take place to the different of ports of the same body. Thus two plates of morth od how so strongly to getter, even in vouis that they me give a coundenable four to reprete them. Tir I way Noton often this ur found the phanomerro of much time to attraction. you many commelt his own social



time at lange in the 31 th Driving amissed to his trice tisi on opties. The substance ight in on godows I When two blinds unit it is owing to a spenful attraction 2 Man a soled is mented to a flied it depends whom the same principal. 3. When volatile will and a fixed booky on united noor not to be represented it is also owing to attraction. 4. When a third body is odded to a compound of two welster as and reperates them and it is owing to a quater allow tion, which the third body hos to our of the former than they hour for This Bostimes from its simplisty so one goined the opportation of the learned. But he coursed it no ther too for. Thus he infores effervisione to be owing to the attrition or colinar four portule with another. This we know is not the boul but it is owing to the extension of on eloster unbland The dinon the hat that bohis planin insture from the some course Butthis we also know to be Jober, for Told is or often the effect of bollinow or heat. In Iroac lound allempt so areflow the cause of attraction. attraction is a letter term than offenty The Genman did not neces this doction, normed



me wonder at this or May are an undustrious det of puthle fonder of making experiments than of diducing principles. thim. D' Friends humal Lettins for a time notorded Tir Iroac Newtons throng, hub it soon immunited this Shotale and non informer to every objection. His nonuniversally embraced Chemical attraction is distinguished from the I provitation boherion and Magnetism in the bollow ng partialors 1. It dott not set on large ladies which are not in son tout, thus rolt will never defrolor in water while its her ot a dutamer 2. It does not out unlif the particles on in the cloud without. Thus merenny and melphier will not united unlife tribunated together. 3. It round tobe place between two wolid hoolies. If is un take a little sol ammonive and salt of loston and much theme to gether them will in decomposition the the place. But if we odd a little water, the mill of the volatile alkali is plannly personed. There weren they must be mirdred fluid either before or ofter this Anotion. Head also very much afurt line. 4. The munitimes of the particles is almost beyond with

the re Lupo light in much hillm

aption. Thus if we defroher a migle grain of lots of bluer in ever so lange a quantity of water it swill woon he intimately differend there every hand of the menstrum and will offear by the whole be coming turbed whom the addition of a little memotic said This is owing to the mound me thoud of prosupritation an union of the when and munotin and. Temple attraction in that from exple by which the particles of one body have an offerity to and would bure with the particles of onother. Imple election Attraction in when to two hodis united a third is added which writes with our of though and purcification the other. Thurs if to a solution of com mon wel ammorrow. in water we add a grantity of Tott of Fordor a decomposition will take plant, for the Municher and one part of the dal ammonias having a greater attraction for the welt of tartor thou to the volatile alkali the other ford will writing with it and neffer the volatile alkalists to the off or in bruised from the fringent muell which in foreserved omes upon the oddetion of the Solt of Forton. This diffe fruit to orwent for this attraction. Why do not all there muite? This tends to prover that other time out Kepulmas

1 tim Le the the terminal and the second to the second to the second h one 4 Euros in Abler in the the 1 Know the estert She bif a war man for hich

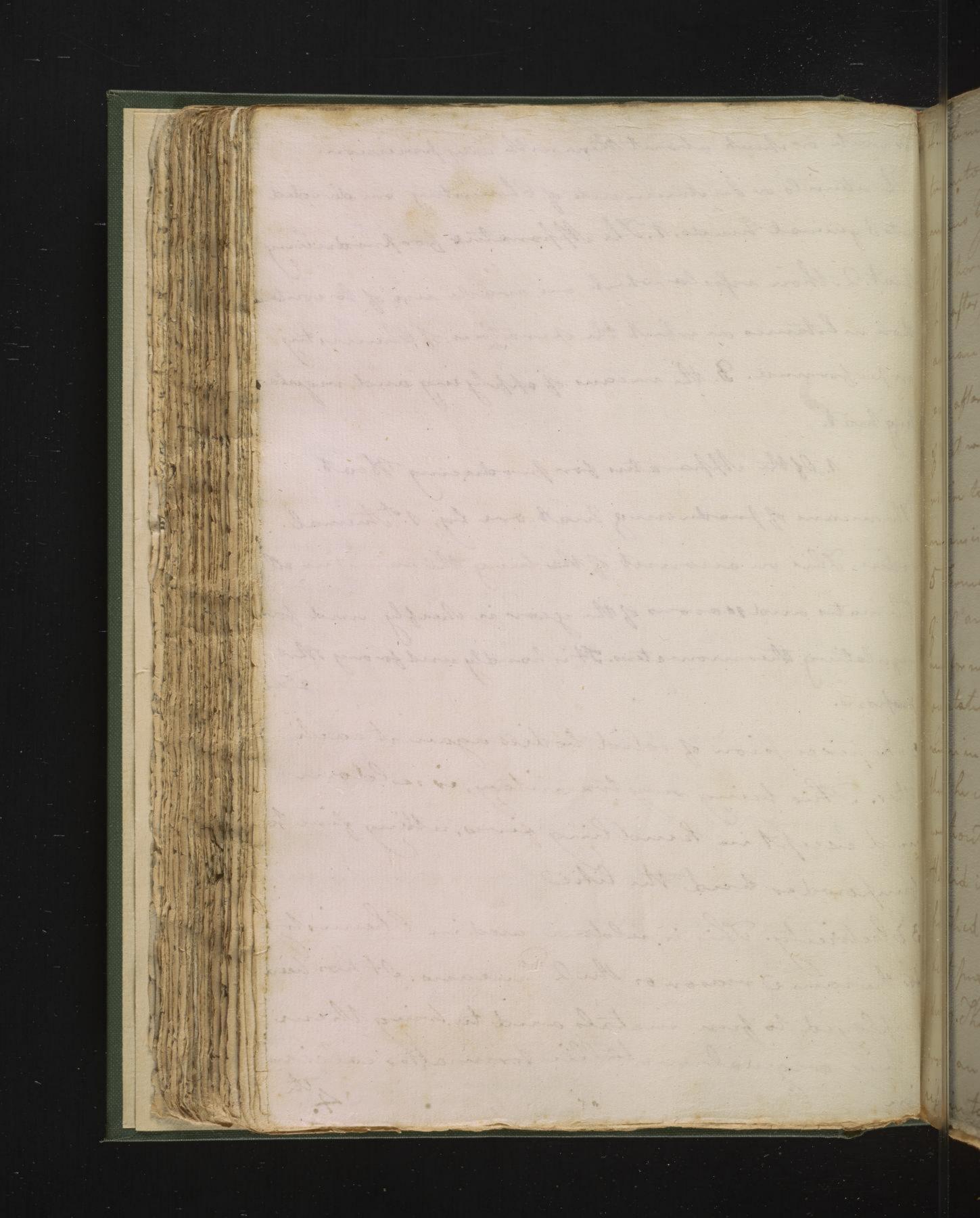
Mulion and the only action principles in the mineral The order in which hodies in the varme ununtances of trout each other is no unvariably the name that themsty how wereturited tables which they call tables of & Cution of troctions geoffray is one of the funt of this hind and we how our in our Syllabris. The order is envorably the some under the same cerementones in all ages and in all blimates and it is now the same and probably even will be the same out words the entition. A Knowledge of this attraction is alwality necessary to the Phinaman in compounding medicines, or without the quatert mustoher may or wir in each testing theman Such if upproperly combined may ort upon and monthon each other in the stomach and himer may be one werd or produce effects entirely opposite to thorn to for which they were interested. Double Elective attroction when to a robition bony wond of two melitances in water or ony then flind another compound of two deferent without as is added and a mential exchange of winfound portitoher place. Then whom museing a Solution of tel Blowtis which is composed of the vetwoler and and Ivor to a white on of raihanum latining

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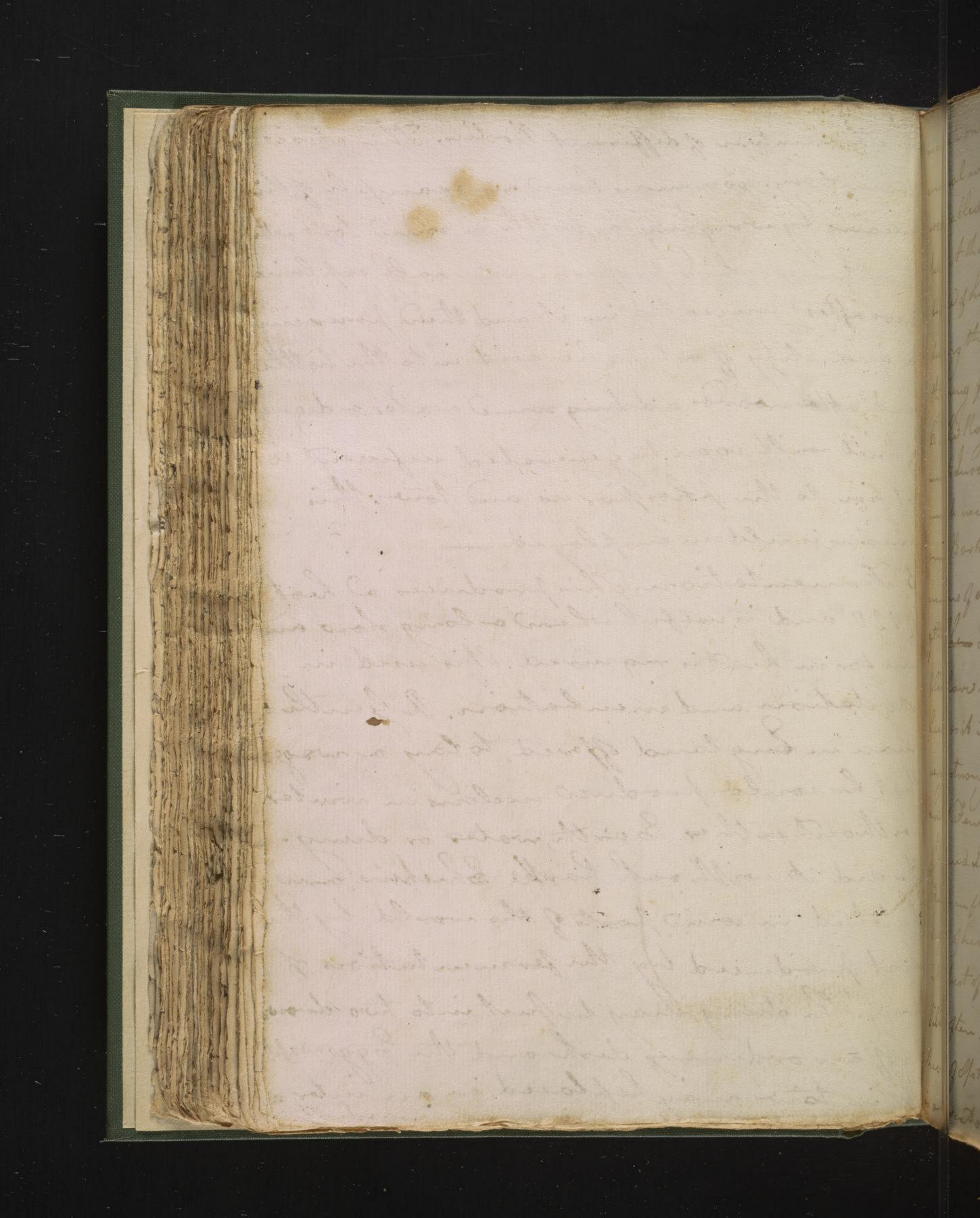
which wint of vigetable said and lead, a double clution thortion takes plan. The veticolie acid combines with the land and the vigetable said with the Inon and thubon two new compound on formed. By an union of two hodies on alleration is frequent by made in their bulk and weight. By a whiting of notes in water it is made to take up life moon. On amalgani of Mereny and belver in traver than. then metals were before combination. If we how were water into a glot tile and offer woods south spirit of were measuring the hight of the liginors we shall find ofter enverting and guntling them together that the meetine will wish wounderably We Reamour was the post that tried this. He found for I nufrary to let theme stand rown time to sufrificte the heat generated by meetine. Inour this we cannot !! till the purity of any me letames when in a compound tote promits sheeper Gravity. Section 3 no Of the Chemical Apparatus A Knowledge of their is strobutly neighbory to the Phil mon as without it he rannot conduct any sprotock

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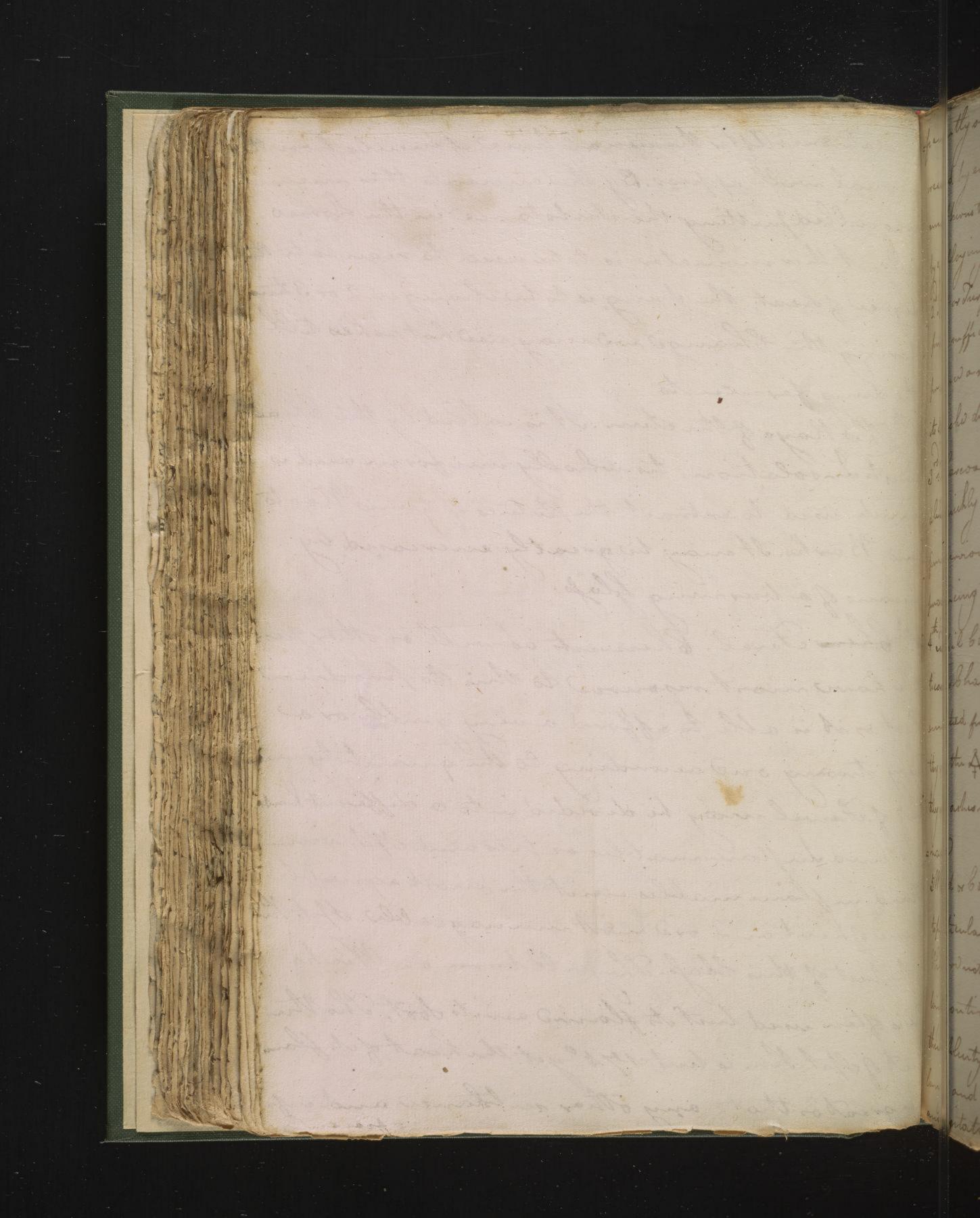
or write or shah about them with any princision. The returned or In Mourements of Chemistry on divided into 3 general hoods. 1. The Apparatus for producing heat. 2. thou refeels which one wash un of to contains thou me letames on which the spenations of Church try on performed. B. the means of spplying and night 1. Of the Mharatus for producing Heat. Theman of froducing hat one by, 1 thimal bodies. This on occount of the trung the same in all Climates and seasons of the year is cheefly und for regulating thermometers. It is handly und for ony this 2 The percupion of solid bodies against each thes. This being very transitory, is sa Colone med except in hundling fines, willing fine gunpowder and the like 3 blectvicity. This is relolone used in Chemistry for the rame of mason or the 2 means. It has been to to their original metallic form after calcinstill



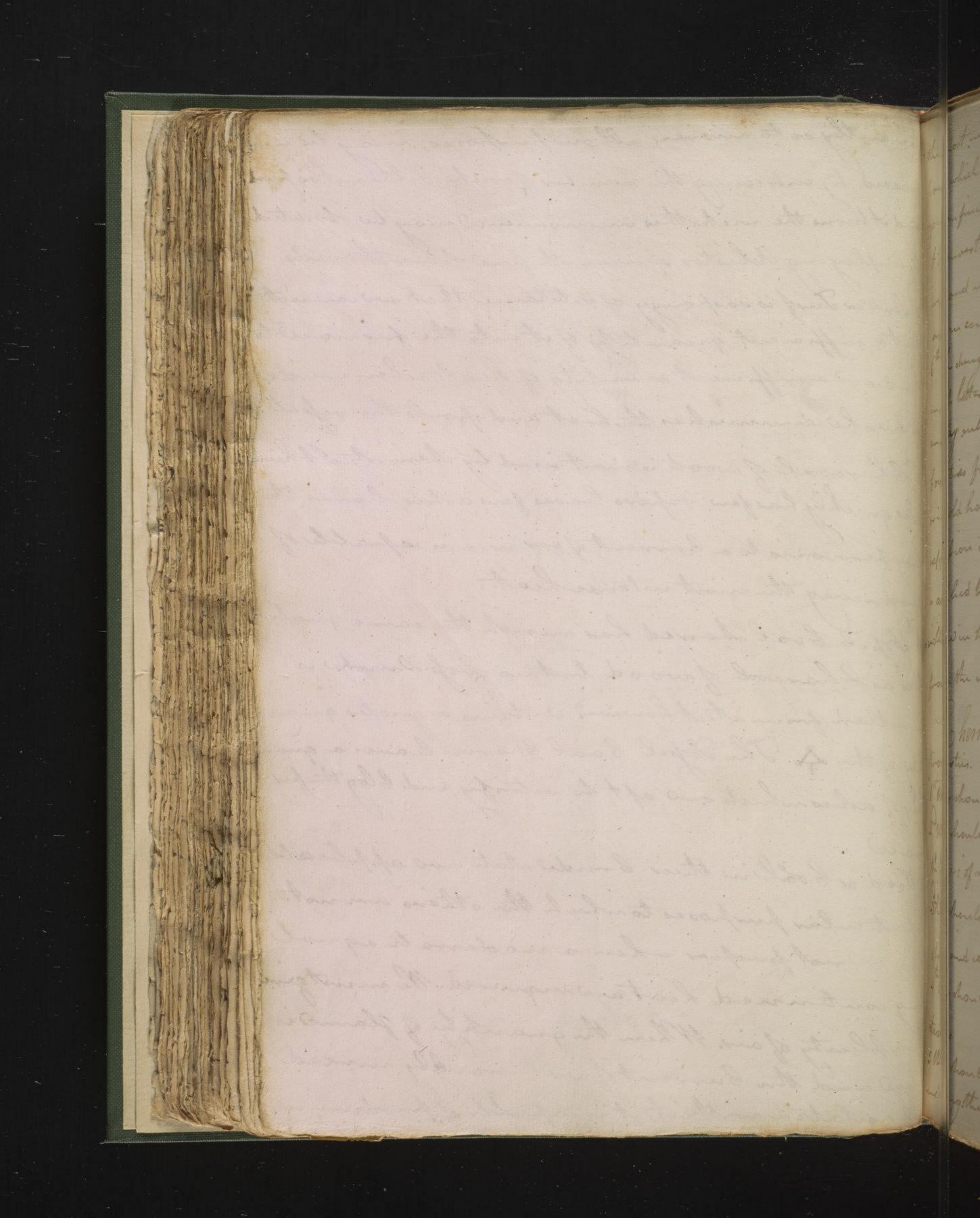
4. The mention of different Boolies. This also is troumtony. you may have an example a of the means by wrafing a bottle in round tour with Thorphorno whord properties we snall explained hereafter) iourealed in it and then pour ing !! a grantity of vetoralie acid into the hottle and after moores adding some water a digniff I hat will room be generated infrasion to at fine to the phosporus and towe this means is reldom employed 120° and in useful when a long slow and wing for me heat is nignered. It is used in orgatation and membation. Il gentle & I man in bing land offered to lay a wages that he could produce melons in winters without either Earth, water or dung. He did it with och harke Chicken om hatched in como parts of the world by the heat produced by the fermentation of dung. The strong way but furt into two down in town may heplaced in an inter at



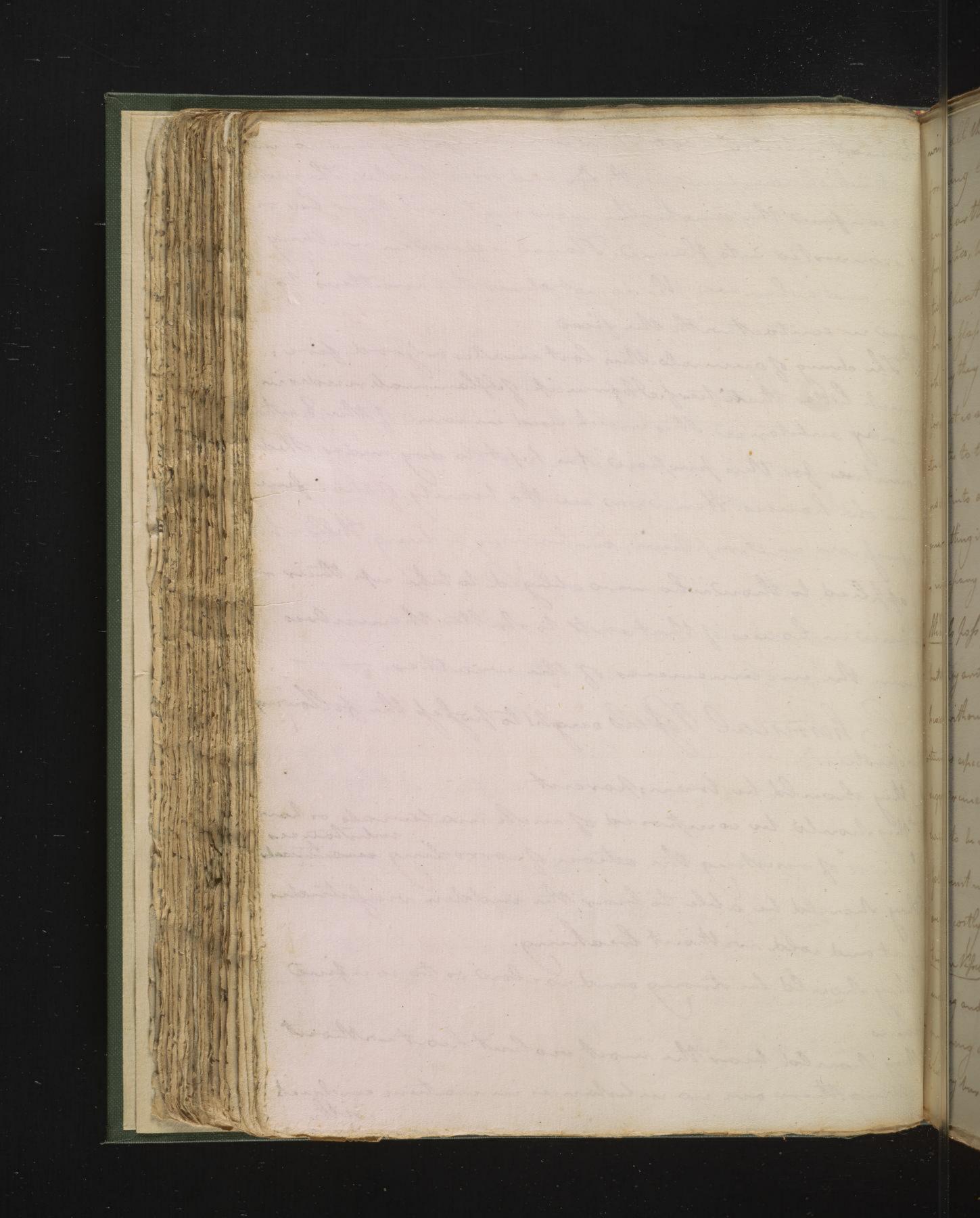
mediate one. after the usual time of mentation the minal well appear. By the ancients this meand was called putting the Intotance in the horses belly. A thermometer is to be used to regulate the Ligner of heat, the dring is to two changed 2 or 3 times the dung formants the dung ferments 6. The Rays of the Jun. It is called by the Cheme musts dusolation. tis wholly mustorm and is and Barks. It may be greatly encreased by meons of a burning Gloss. the Fral. Chemists as well or other programmes the have most visoured to this to produce heat or it is able to afford a very gentle or a very strong ond according to the quantity mas un of Fewel may hi divided into 6 dufferent hundi 1" Thurd Sinflamma bles or lils and Spt. vin-Anid inflammables emit the most agnoble 1 agne of heat and ord most manageable. Shit his the best of this Blag. They all burn on Micho Wil is often used but its flowed amits Loot. The the head of Mat. Non. is but 174 yet the heat of its flame is a great is that a any other melstanes and out - finently



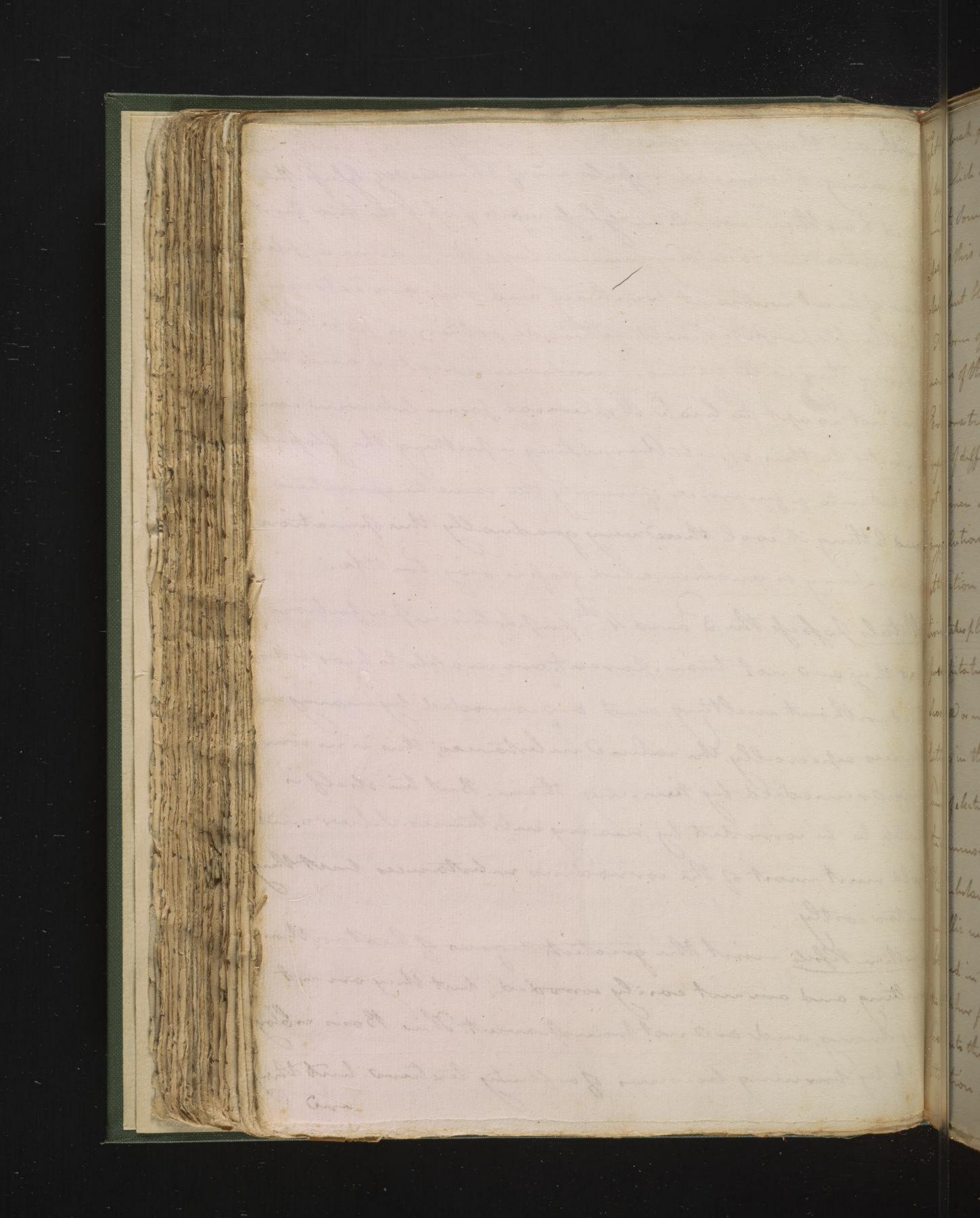
freently so to answer all our purposes; may be end weared by encreasing the number of wicks. Dil is not so puril and it hims the wich: this mean vanience may be obvioted by employing ashestos spun with fine Silver thorads. 2. Peat or Turf is so sprongy a substance that we cannot put a sufficient quantity of it into the fur mow to produce a sufficient quantity of heat when emole its own he driven her the heat and spoils the vefsels. 306 haveval of wood is most med by hemits. It him the quickly has few vapors leaves few ashes, hower this fin pervious to a Burrent of six and is is pable of producing the most intense heat. 4 Fifiel boal haved has much the same quality ties as Charcool of wood, but no groß Smohe is emitted from it it however contains a greater quantity of the Fo The Topil baal bhowed leaves a quantity thy of ashes which and aft to vitnify and blog the fur-5 Wood or boal in their Brude state and applicable :mace toparticular purposes to which the others amust. They and not proper when a modernate equal long continued heat and inquired. Me must give them plenty of air. When the quantity of plane is lange and the Burrent of air Moverely muchod and agitated with it, it is capable of producing



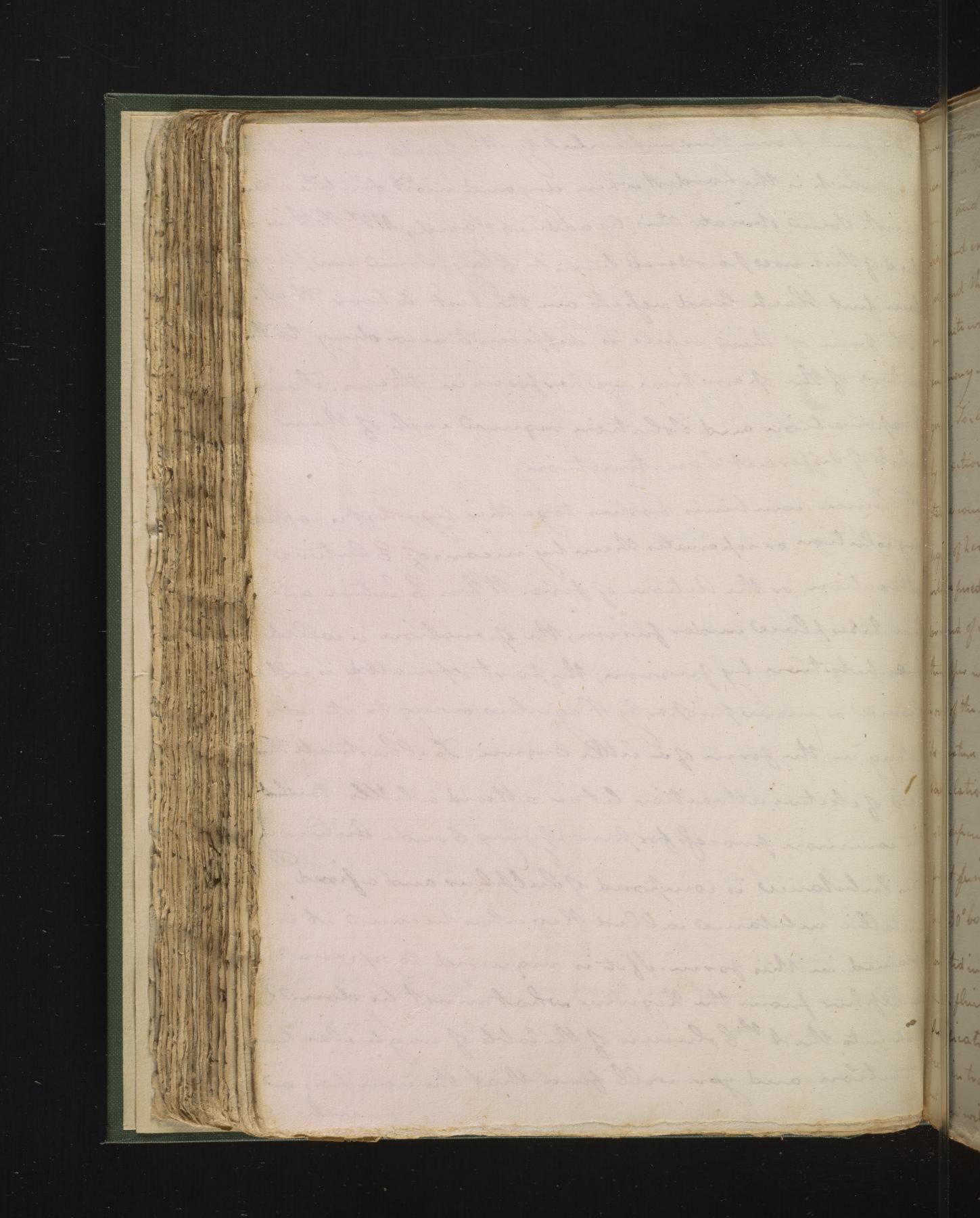
the most interior heat. Then contain watery and rating ports which combined with to and form Surshie. The money you confine the smohethe mon heat will their live or it is converted into flamo. Flamo is of uso in melling won and whenever We do not ohnow the matters to one in contact with the figure 6 The shing of animals. this lost makes a good fine. much hetter that trent. Aprincip. Julflammab. mides in an orlay substance. It is much und in round of the Eastang bountries for this purpose it is heft to dry under Sheds orin old houses. Hence we no the hearty of that fine whenfrom in Sweptiens, Embracing a dung thell whish is applied to thow who were obliged to take up their ref polinie in homes of that sorts to shelter themselves from the melinancies of the weather. hermical Repels ought to profif the following Imopostis. I'Mey should be transparent In they Should be sometioned of melina the hower of mosting the action of corroding materials They should be able to bear the molden verifituotes Thist and cold without breaking. 4 May should be trong and roulow or to confine 5 May Mondol bros the most violent his twithout melting them one no unlistances in notion and wet



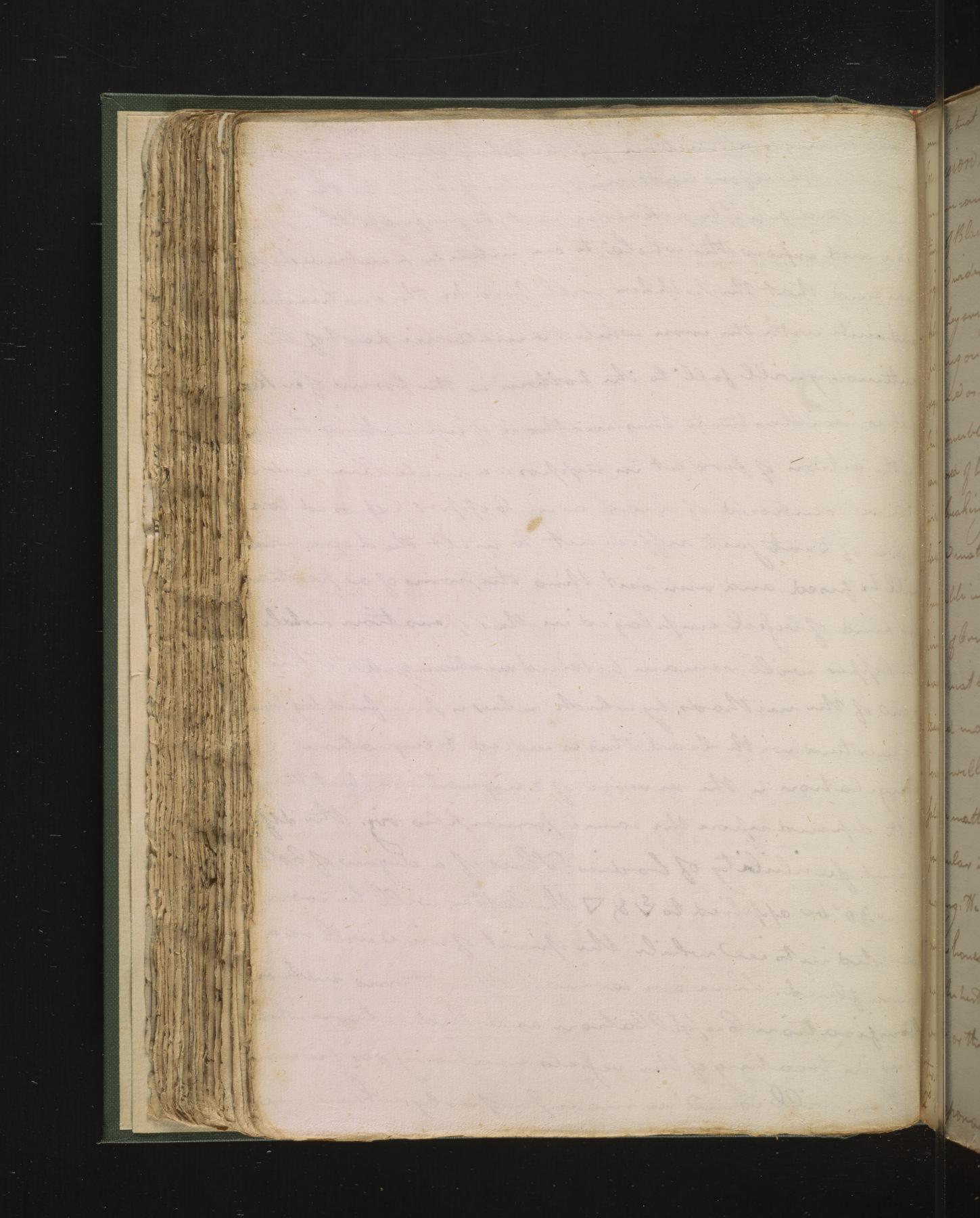
with all their properties. The materials made un of in forming Chemical refuls an of 3 hundsviz Glass Mitols and Barthen word . - Glass reful proper the two first properties, but they count has the midden application tion of heat without locating and they are extremily brittle. Glap rights showld be made or thin or popular whereby they will be more uniformly heated and through for Don't so aft to break. A shemeal form liberin con I tributes to this effect. Amuealing is putting the glop while nd hot into a fur more of mearly the same tunponature and litting it cool these very gradually this spenation in neceptany or unohmaled glofin very buttle. Metals Joseph the 3 and 4 the properties in perfection but they and not trans, parent, are malch to bear a strong host without melting and one corroded by many out Atomies expecially the ratine in lestances, this is in normal digree remedied by timing them. But his strelf is hall to be romoded by many intotances. I dies ound hold must most of the wornsoling substances but they on too costly. Earthon Vifels wind the greatist degrees of heat we though melting and are not easily sowoded, but they are not my Anong and are not home spawent. Their Bois in blog which by burning becomes go flinty textures but they



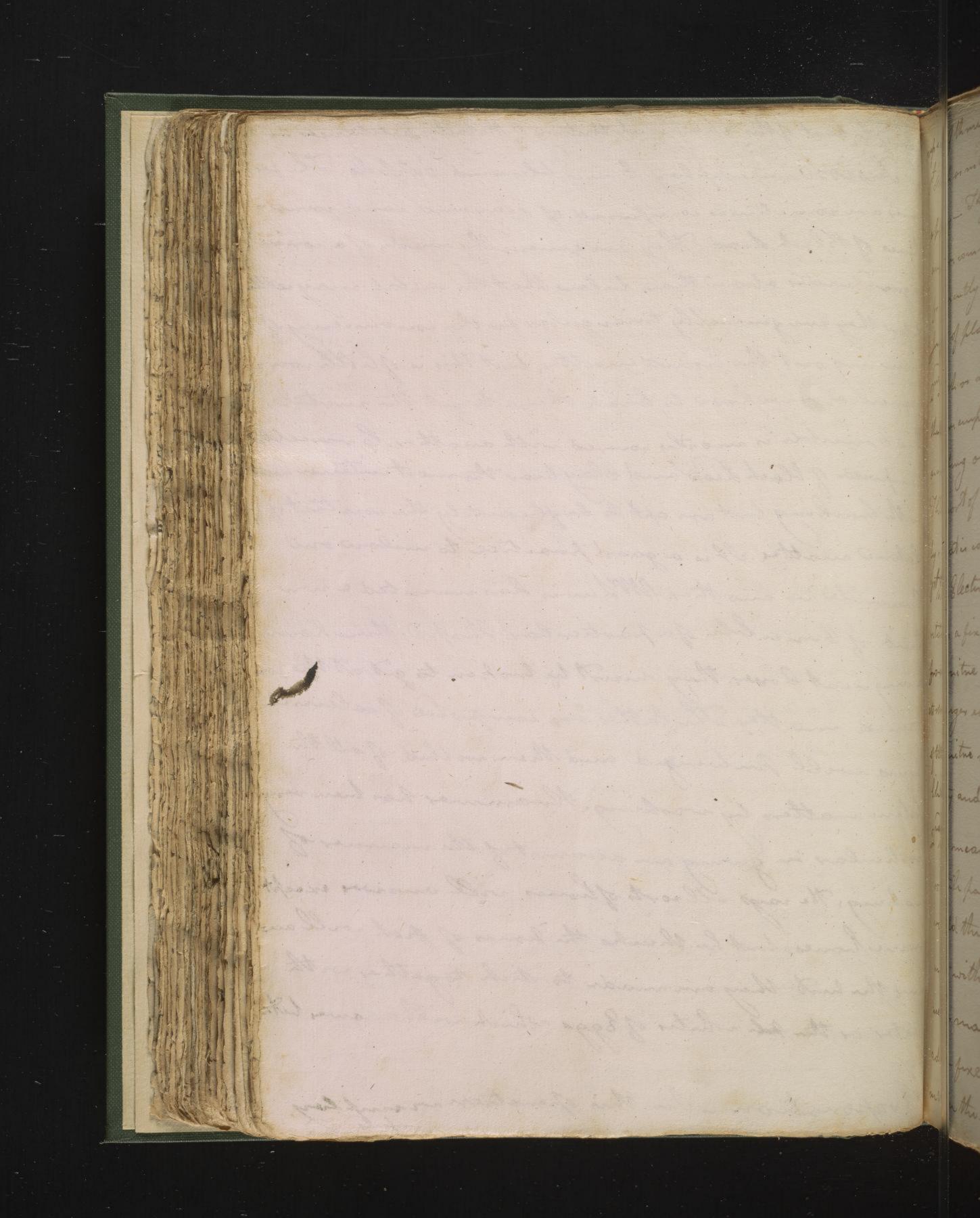
oft to break from their in flexibility. We should use that flay which is the hardest when dry and most ductile when worst. Some steve at this by adding Sand, MM Pott in 21 had of this noes powelered burnt blay. Some now porces lain but black had refulo on the best to bear Heat. The form of their refuls is defferent according to the nothing of the openation we perform in them. Fundal Evapone tron and Solution mynum each of Mun ufels of different bourtimetion. It I mion combines hodies together by what is colled to dry solution or repensates them by means of & lutiver attraction or the action of five. When Elitine altra Inon takes place under fusion, the openation is rolled procepitation by Justion, the port repenated is collect home or mono prosporty Regulars owing to its who biting in the form of a little brown. To allustrate things ud of election attraction let us attend a letter toward the common process for humstying 6 mole Antimory his Includance is composed of Inth hier and a freed metallie melistance alled Regulus hecano it is obtained in this form. If it is neguered to upremate the nelphor from the Regulus what must be done? look into the 4 the bolumen of the table of might elective ittraction and you will find that the non ho, a



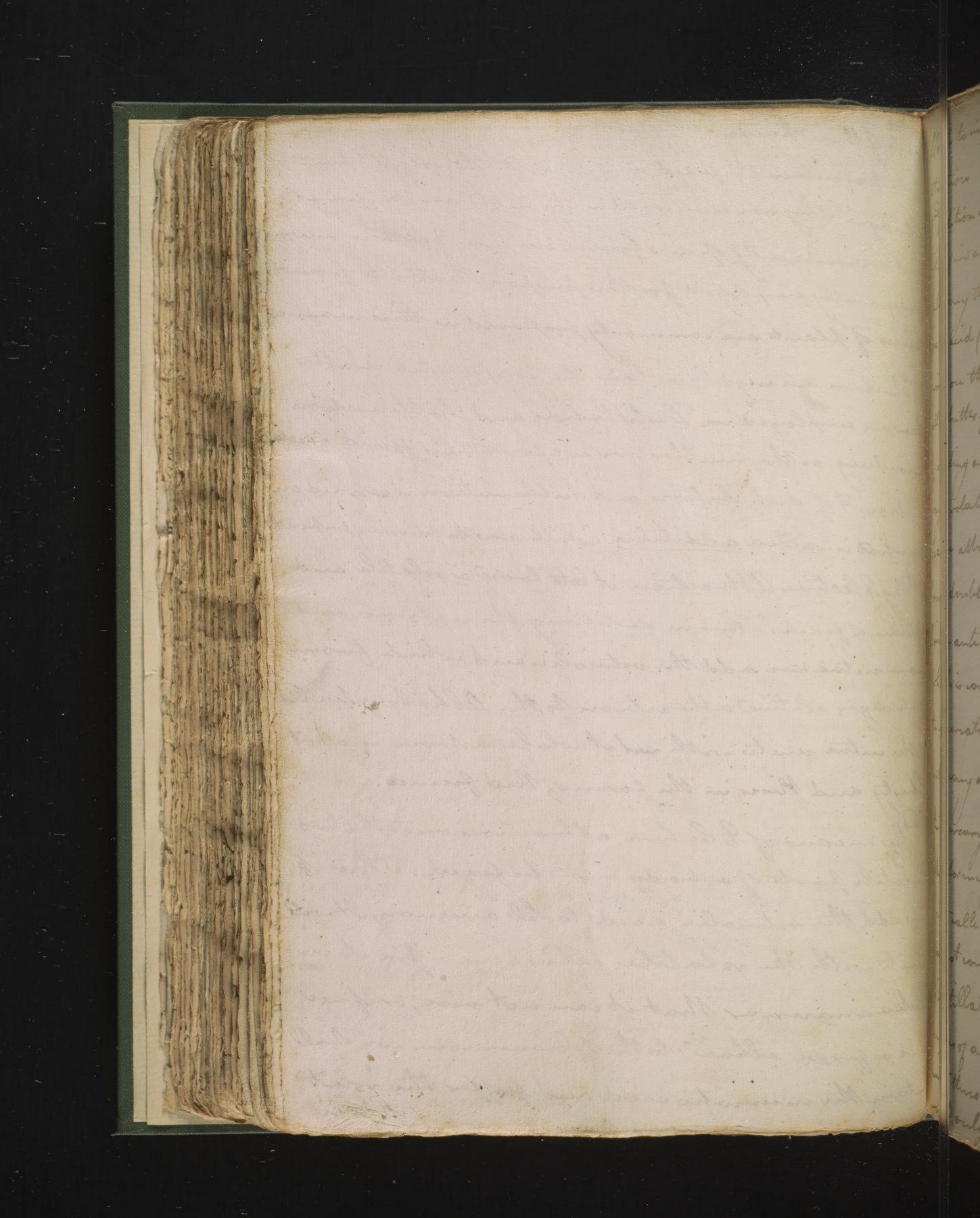
ment stronger attraction for culphus than the Regulio has: let us them forwooded some plates of mon to the autility mong and a letter alkaline ralt to propriote their ful non and expose the whole to an interior heat wishall on find that the Sulpher will for whe the on timony undurite with the even while the metallie fort of the autimony will fall to the hottom in the forms of a Real gulus. To ellustrate this method of reparating tooling by the action of five let in suppose a melaller subtance composed of Quad and bopper exposed tous digree of Leate just neffrenent to melt the Lead which will be fired and num out the one the pours of a particul low hind of vefrel employed in this granation while the Copper will ramain behind unchanged. This " one of the methods by which whis is from fred tog from its mexture with Lead this is called & lequation. bongilation in the servers of Elignation, but they both depend reporter ramed primer ples viz. the diff fruit funditity of bodies. Thus if a oligin of Bold the him 30° be applied to & & \ Whe latter will be room of one to de while the print of wind will ve a moin fluid. Them am several other times such or to Dongication Buppllation and Reduction while wer in treating of the refulo necessary for furnors then will some in mom profresly when well to



and to that of the Chemical History of Mitallie betstances -In trioron in employ bring blue and Boppelo. The fort mer am some times composed of Blay and rand some all times of Black Lead. They am generally made of a convol figured under about than below that the melal may settle below they are generally triangulor for the conveniency of four ing out the liquid motter, but this is of letth con a egnemied or we have to trush them to get the metal. ho brunble is mostly cowed with another. 6 muchling composed of black Leoto and blay how the most intern Real with breaking but am aft to be fluxed by the contact of laline matter. It is a good proctice to melow one bruerlik in and then Milewis has more ted a new hind of Grande tele Japarticular Mapo, Munchow avery meat bover. they must be broken to get at the way toined matter The latter one composed of coloned homes well pur liverized and then nothed of all the Joline matters by washing. Knowness has been very particular in guring an account of the manner of moching. He rays all sorts of homes will auswer excepting wine hours, but he thunks the hours of fich will and wes the hest, they are made to tich together with water or the sele wheter of Eggs which will a sweet little 28 Evaponation - In this operation weent bey



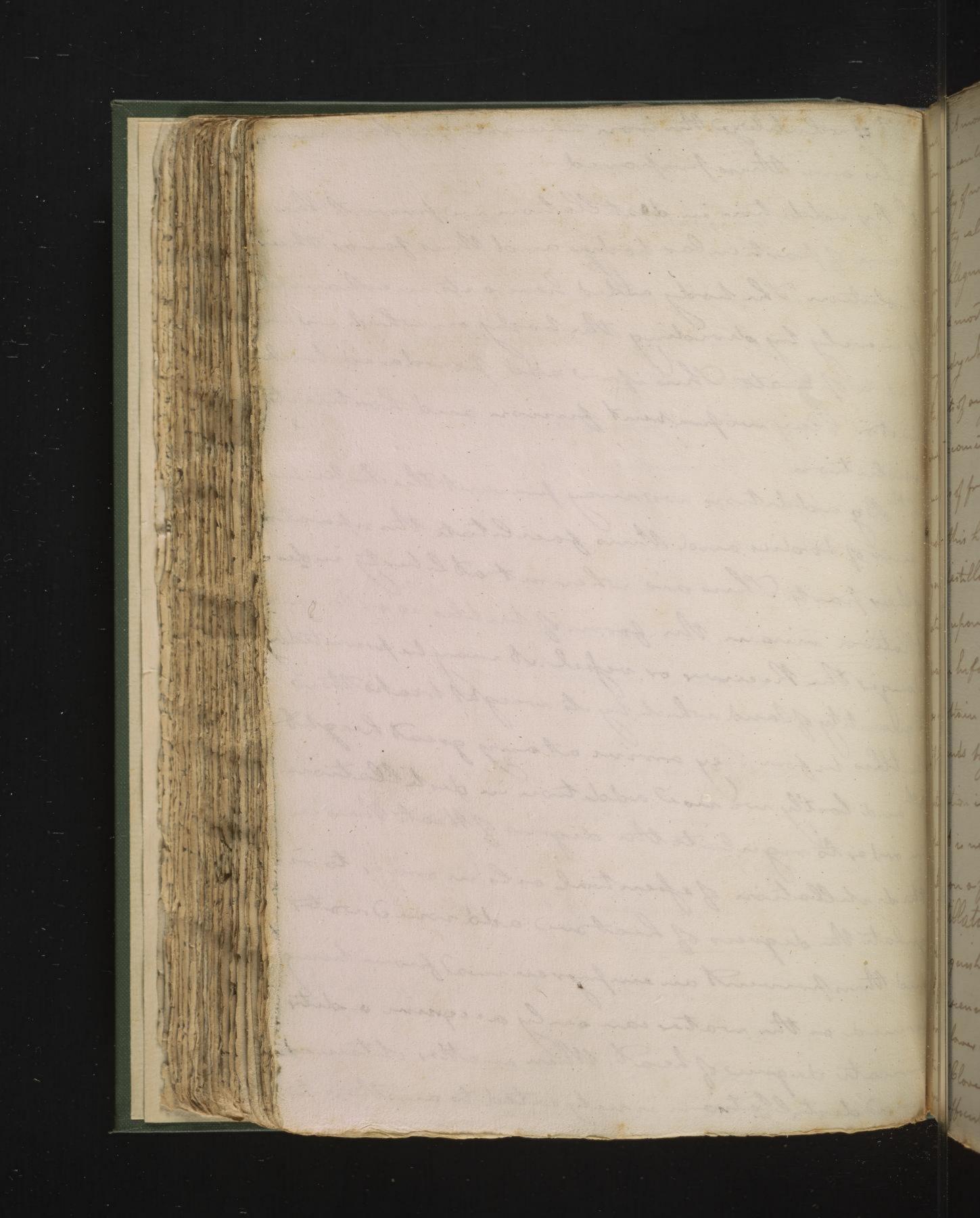
whele of theme hundes I Inch or mitain the fixed and dependent the volatile parts of shody - They am employ ad in the most rumple of anotion and are sommonly of en above. Common Barthen from one frequently employed for this purpose: Extrect from the finces of plants are commonly purposed in this mannes Inch or an used to me toin the avaponated matters There are employed in Bestillation and Sullmation mording or the matter we evaporation fluid or will This sort of dish, Clotion and Sullmation is worried on by what is called addition which worth following hupons. 1st By Elective attraction it lets loosed a volotile and to mtains a fixed. Thus in distilling the me trous and from nitre we odd the vitriolic acid which from to shonger eletise attraction to the alhalim haris Ithe with while withous is ut of Whenty and River in the form of Red Jumes. In By means of Election attraction one the two volotile parts of a body man be fixed: Thus if wo add the vituolie acid to Lal ammon, Hwill with with the volatile alhaliand fix it in meha manner Mat it iaunot vise, orifive add a fixed alkale to the dol ammon. we shall mtain the municipacid and fuffer the volat



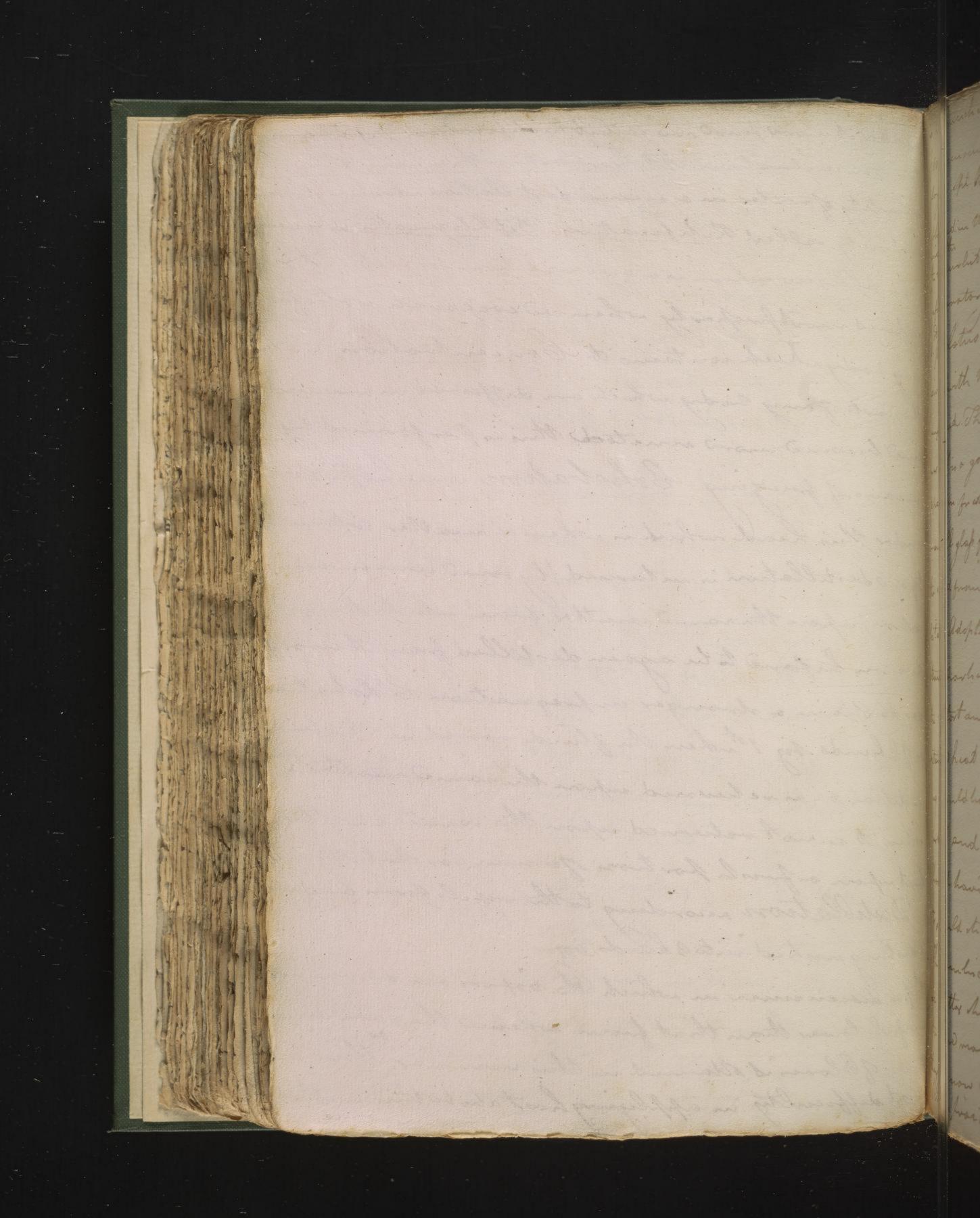
Mhali tomin alone, this liherin depends on Election 3" Addition weres to soperate a fixed matter by volatilizing it Thus if we add the municipalic acid to the Regulus of outinony the Regulius will write with the mus natic acid (mponoting it from the Sulphur) and win on the top in the form of a greasy sulstance colled butter of antimany, and the Sulphus will be obtained by adding a little mercury to it. Them is another way of volathing the rigides by Means of a double election allowation; thus if you add for in the 10th bow of double election attraction vid. Cyllab. hogy 39) to bunde autimony an equal quantity of borrow. Dub which is composed minimatic acid and mareung the mornatic acid will write with the regulus of antimony and form a butter of autimony while the morewry remains behind and unites with Int: thur forming a Burnabor which is on this ocal went called burnahar of autimony althority does not contoin a particle of autimony in it 4 Dostillation or Sublimation server to by mions of adolition serves to volatilize the whole west: there by adding mon to Sal. ammon wend only anoman the volatility of the rolt

yloo

but of volablege the iron lihewise. The flores more toles our this proposed 5 th By wold tion in destillation we prevent the funon of particular hooliges and Mus foros their Mushition. The body added have nets me havisely by merely by shorshing the body on which we inst tend to spenate. Thus if we add powdered brich dust or blay we pur bent furion and hostents 6th By addition wo may provent the In hours uner of bodies and Mus facilitate the uponation Their parts. Thus air when nt otherty inder of thation mino in the form of bublis so or to en the doinger the Receiver or vifel it may be promited by a greatity of Sand which by its weight breaks there Intelles before they arrive out any great height 9th and lostly we now addition in destillation in order to orgulate the degrees of Heat. Musin the destallation of efectial oils in order to me gulate the degrees of heat we add some down to and then provent an empyreuma from being to formed as the water can only accomin a duty! minate degun of head. When mother obtained your distillation is my acted to another to



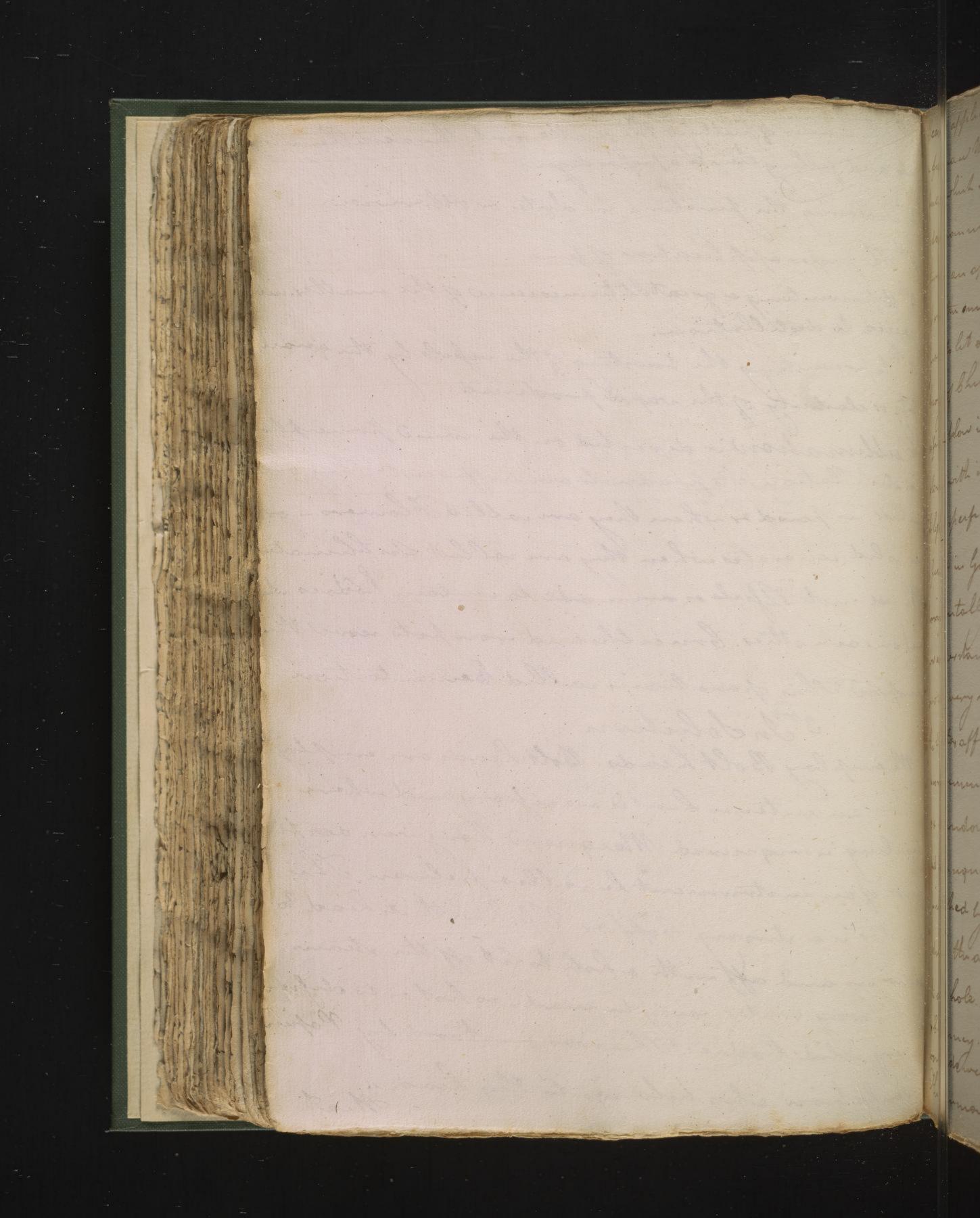
make it more from we call it Reitification, Dephlique tion boncentration. Att. Min. part with a coundmable quantity of water in a second destillation which with rough proporety alled Relegionation. Dephlegmation is devil from phligm which is a general term for water it is affilied most proparly when we evaporate worte from any hody which wontains it boncentration is when the parts of any rody which are differend in any modely and become more united this is par formed by means of frezing Cohobation win proporty under this head which is whento matter obtained by one destillation is noturned by round comment cotion upon the ramed matter from which it was drawn he fond to be again destilled from it in or all der to obtain a shronger empregnation. E sho hatron ing I hands by 1 the the fluid naised in the first dutillation is relieved upon the same mother 2" shew it is not returned upon the same mother hut upon a finish hor tion of a num Cor Sulestances Destriblation according to the refuls form and ung udesting enshed noto 3 kinds box. 1st per discension in which the vopors on driven into a reful loves than that from whence they are drown the oil of blower is oblamed in this manner. There is all groot difficulty in applying heat abobothis method



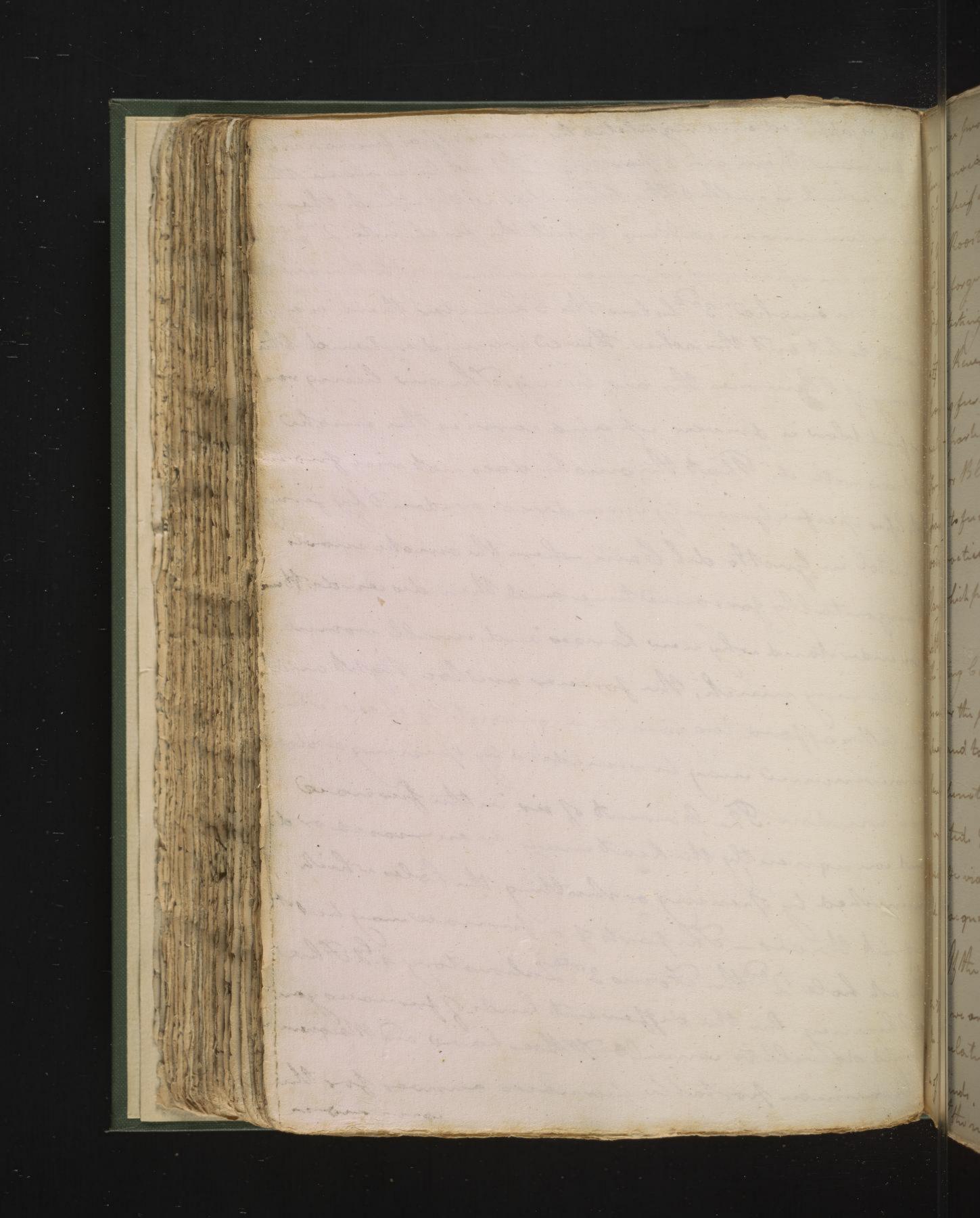
is not much und. per Moremoun in which the burnship and alembir are em played the him and himple and bompound waters on binder the bucurlist and alimbic am used the Bopper still & refunganatory. 3. Thatis or obligamen in which the Relationed ref seiver with the occasional application of adoption on unfloyed. This is the most neight and ronvence entmany not. It is a good pro-etice to make a hole in the retort to pour in fresh matter occasionally for which purpose a small glaf frimmel may be used espenally in destilling the acid from withe a Retort of this band is rabled buly lated. Adoptons are used when wowsh to confirme Iteam frashenlarly in the deshellation of ag. Elost but the Retort and news answer for most purposes. When inten, I head is wanting or thick coating a thick water ing should humade use of In motherwation the but undiet and Member am employed. The brewshit Thould have a short much hart the mblimed may to should stick in it and thus endanges its trusting The olumbic showled how no hole hast the milling ed matter hould areafed. Some our almobile for the same moson that adopters our aufloyed. but they am now laid a side. Use the front is to be had

to des lashin Matu in for

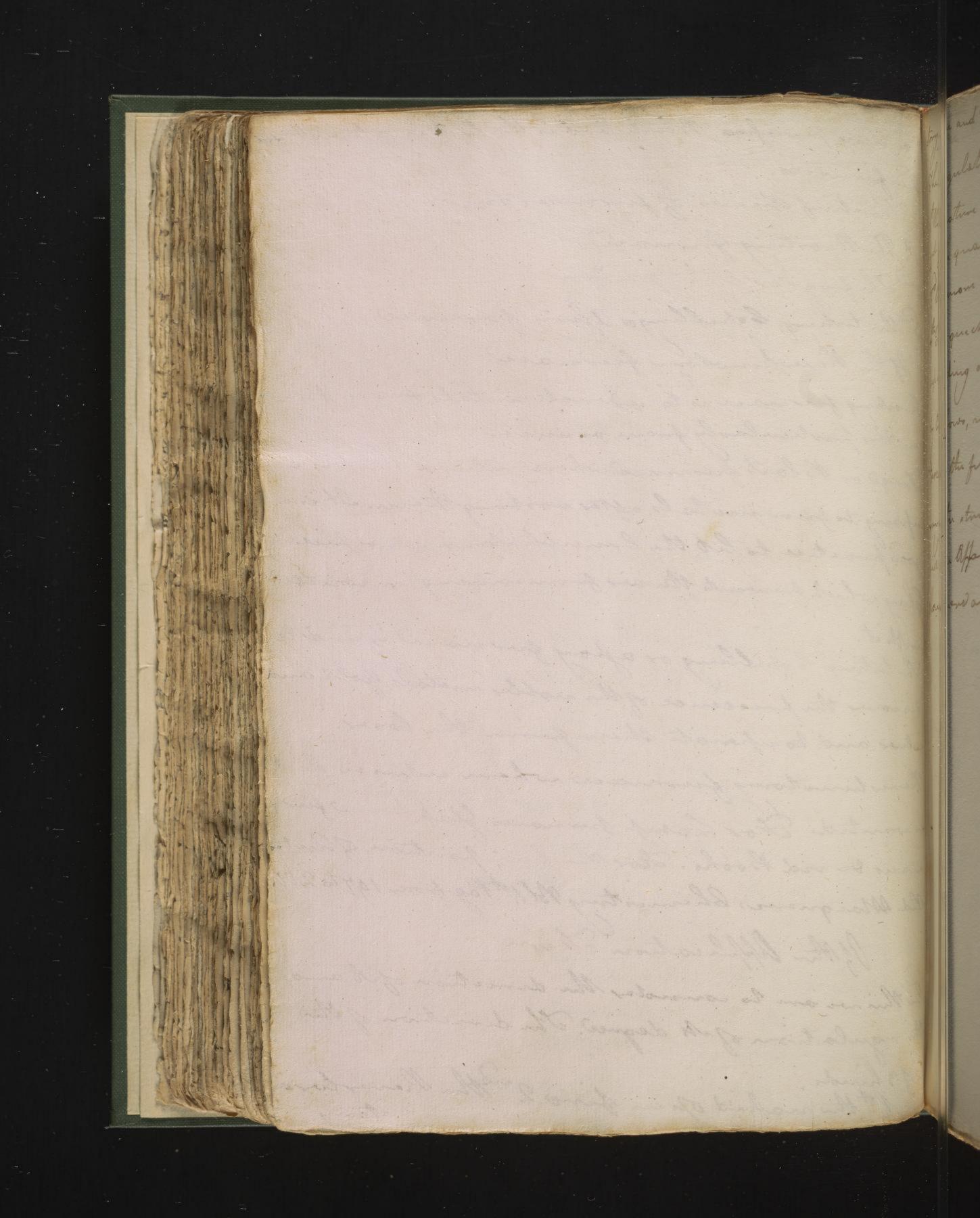
ulo and felling them to a propos degree. 2 To blowing the purchase by Lutur or otherwise 3 The proper application of fine 4th to proventing a great Statumes cence of the matter mb 5 to preventing the bursting of the vehills by the quan jected to destillation. tity or closhinty of the vapor produced. Sublimation is directed on the samo frommerpho on dishellation. Its products over defferent. They only either in powd or when they are called Flowers - or in solid concretes when they are collect on themates We use meh Pefuls or an made to contain bodies while set on each other. Erner bles and won hots rever thing purposed. This opene tionis called Bernento-tron 3 In Solution We employ Bolt heads. Bolt heads our employed when an entense Leatis acceptony and whom horling in ung nined Macquero horgeven de fin gure of an instrument he wells a pelican. The digestor is a strong Copper Office with its head to server on and aff with a hole to let off the steam. dethis way water may be made so hot or to obefield many wolid hodies. This was firstund by Poping Evenlation also belongs to this Lind Heat



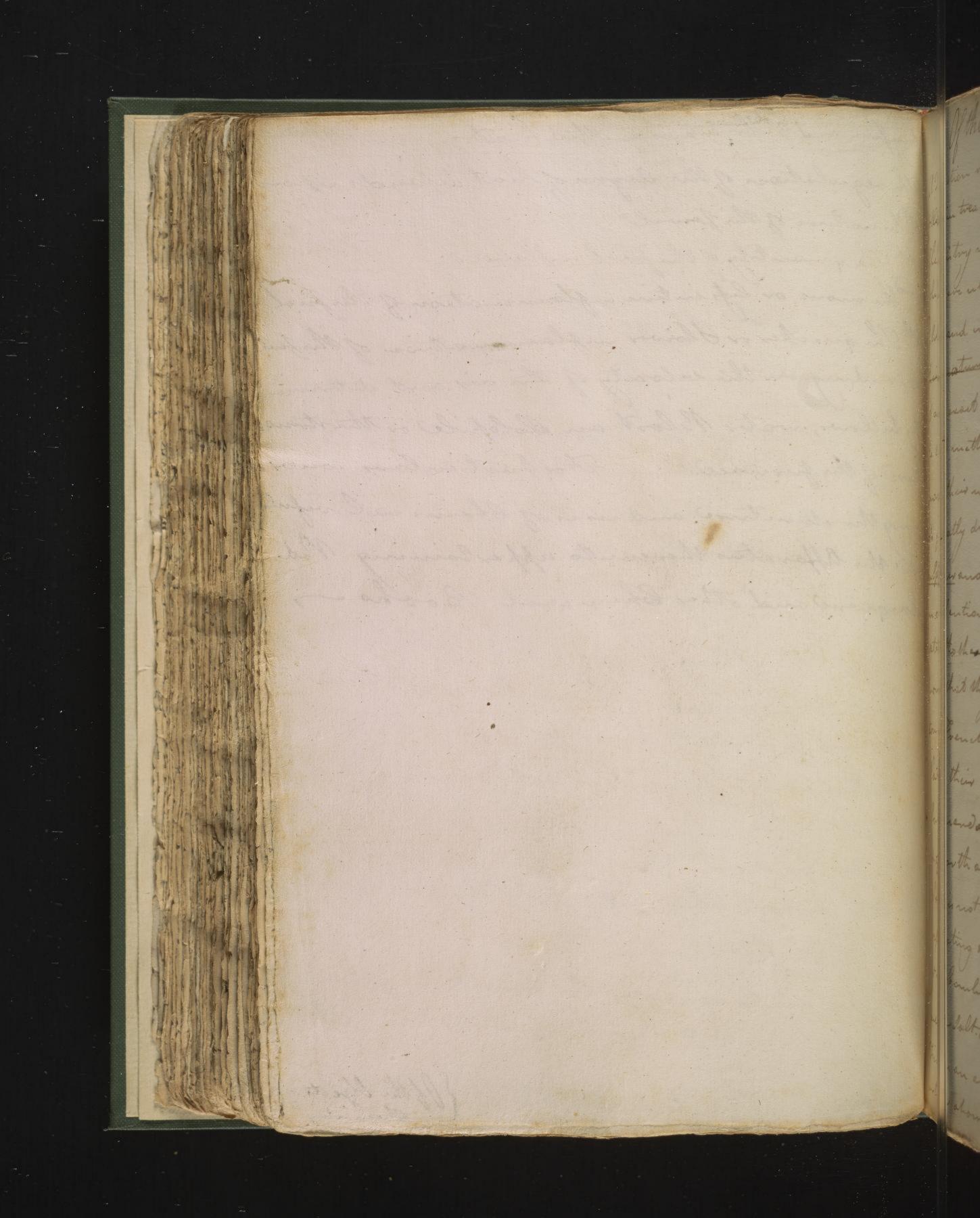
Heat is applied and nighteted by ancons of a furnace. In a fur naw Mem am 3 portsviz 1st Apart to contain the fuel which is solled the Chamber with which theming odoor rommen eating to put the fuel into 2 about there is an apening communicating with the visto led out the smoke. 3" below the Chamber them is a quate to let out the ashes. Housed we undarsland this Theory of Chimies. the air being. The sis being von refred below is driven up and ravines the mohe olong with it. That the smoke does not visi ground It life sperfic Growitz is rendered evident by firing * firtal in Gusto del Carri, whom the amobie moves horizontally Jornone time and then descends. Home we mider stand why new houses and moll vooins mohe very much, the former and too tight and the latter offond too small is quantity of oir. This for monvemmen may be remedied by opening a slow! or a window. The Coment of oir in the furnace and son ugnertly the heatmany he en mores or di muched by opening or shutting the holes which admit the air - The parts of a furnace may be 1st the ash hole. 2 molle Fours 3 2 Laboratory 4. by Flue would obshull to commet golfor hours and Marquere Il The common portable furnous answer for the



common prosesses. Block boot is the best anotherial for then formois. The shif Species of furerous one It The Roosting Juman. In The forge or blood formace 3 the testing Cohellings afron furno ed 4 # the Keneshmotony furnace Roosting furnamisto whenote metals from foreigned matters particularly from onunic. Forgo or Blost furnacowhour interne heat is an of spany to fun metals after nosting them. It is all good proctice to let the bound bland or a pice of blay which prowents the air from ioning in we tout The testing & shelling or a from furnowed is und to dis sover the presence of the nobles metals gold and where and to repende there from the bases. Kever himstory furnais when witin a heat the is wanted. For Lamp Gurnaus, Glap house for a naus de vid Books. For the Comportion of Lute Rd. Allacquenis Bhemistry Blittag from 197 to 200 Of the application Fine In this we am to counday the demetion of it and the night ation of the degree. The demetion of the in of 3 hunds.



tory fine and 3 Men mans metted heat. The negulation of the digner of heat depends whom 1 Mu nother of the fewel and The quantity of the first unflowed 3rd the mon or lefrentine uglammation of the fuel Att The que ther or Slower inglamination of the fully depending on the velocity of the oir and determined by tullows, water Blost an Rolopile or thistmes ture of the furnace. - From hasticulars concert ring the structure and uses of Blenne eal vefuli and the Affaratus thereun to appertaining Mid. Morgano and other Chemical Books

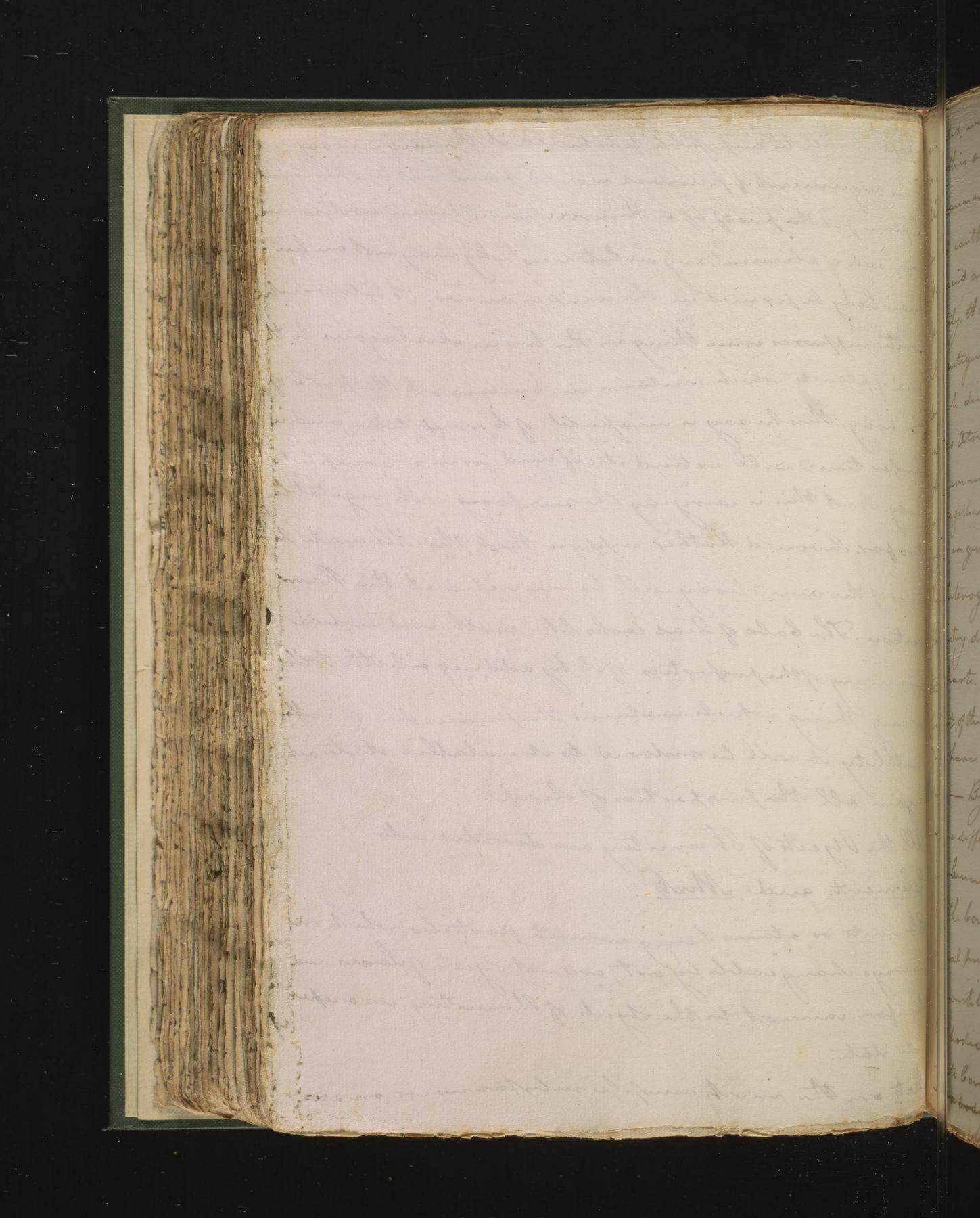


Of the Objects of Chemistry Part. 2nd a Question very naturally occurs have what order we shall follow in tweeting of the objects of Chemistry? The Objects of Chemistry most say and ample e lementary bodies which are ullimate principles of matter umple in them when and meshable of division. Henseither borons their mature nor their number bould we orrive at are exact humblidge of Muse it would certainly be the best method first to consider them tout we meether know their nation nor their number. In then them of with quatty deffer. The Germans make them Soll Zorth Inlyhur and Merenny. This arises from too blose on other tion to metals. They way nothing of our and water the Mase am very extensive and May never would !! prove that they were made of the four hooles they many tron. French Chemists make Earth tis fine and Water their Elements then our the Elements of Macquenda Thus Macquene trusts of Polts or mode up of barth and water. This notion of the composition Bolto is not time? By Repeatedly Chrystally zing & waparating a dolt earth may indeed be produced yet no Combination of Barth and water will proof dues a Solt. This barth is entirely foreign to the Solt. Tim is an elementary body but we know nothing artain about it. tis Barth and water an not so and white

the Elizabeth Colorand Stay my tal her and in expected of the said our all many attention of the the former of the second of the second of the and the start of the second of the second of the second second second second which was the state of the same of the same of mentale advances and and a second and a second and to see I see you was the see of the property of 1600 supporting they were we could not troop of them themically bournon air is made by a Chemical spenation and is blown ly a bampound. It is a lolow to be metrithin a puro che of mentomy tate, a state of bomposition is most matural to it barth is made up of foreign matter, even Bhrystols ove this form to water intering in to their composition. they contain rolls or well or water. Water has nothing alis mentary in its noture under an air prings of from to writain air and under witain Chemical operations it Mons to wontoin a long of quantity of & arth or in proved by Mr Boyle and rince by Godfray of London and Morgroof Berlin. But were infoposo the elementary framerples wen known wo iould not lorat of them or they are will ulyeted to our revues. _ It is find hable from the of all porone of notions that them are much elementary & hodics or am never destroyed, for vegetable and oni = 1 mal Motton om perpetually renewed and on oan the is remposed of the samo motorials now that it was for merly and upwodness the rams hind of howing bart junees and fruit Now went then ultimate funuaplus of hodies Changeable we should no or repondent shange in the hodies they produce. Oir Joans Menton . Clastrates this by an arch of Itomes which if Unown down on he whould provided the Slower of minim unchanged. But if they am altered in uzo of

Whos. this und the The 6 the search of the state of the

Thops it will be unpopuble to mbuild it the rame way. This orgunist of promed would point out to Theologists a plan for the proof of a Remover tion. If would hading one answorld of elementary are listorie us why may not on her s man hody be for med in the some enouner. A late fremling writer supposes some thing in the train alrelogous to the med of planets which contains in Embrio all the ports of the hody, this he say is meapolele of bornesp tion and in proper timed will extend the of and forme boughte tout hody. But this is carrying the analogy with vegetable too for Iwould Mother reppor that the Millmate At tiles of the ramo body will be remitted at the Runs rection. The balk of Lead looks like earth and indeed has many of the properties of it by adding a little tollow or any thing which wouldness, the principle of inflation mobility to will be undoned to its metallie state and los goin all the properties of drow. all the Objects of Chemistry and deveded into Elements and Mixto Elements or atoms being munt particles which orether no ways changeable by out ove not objects of lenses and il themfore cannot be the objects of themestry in a repeared Mits on the most sunfile substances we on aces



grainted, with. They our raid to be composed of Blements or barth is a minteomposed of water, dis and Solt and in the mounes we tes is a mist wentored offlind mother ein and earth. A mest is definelar aggregates united If on acid and an alkali, which am hoth moved must upmothly, the muted the make a compound Solt. Boding whose integranty hasts continue the same let them be with to worth divided one alled Aggregater. Aggregater ord unilar Otoms united together: or if two Glapes of worted which am uppoint to be made up of unalar stoins hill added to gether they make on aggregate. The parts of an ag a grand of an aggregate to be homogenous. If Mixts Literogenous Chemistry divides its objects into Integrant and boustitude tuent parts. By Integrant parts wound a stand invite las parts of the same nature with the whole or filings I wen have the round nothing and proparties with a Boil Jinon - By Constituent Parts we mean definitely parts of a different mother from the whole or when or till ficial bennahoris devided into merenny and dul The bourt trent harts and those whom which the Chamical properties depend. On acid and on alha ove the courte trent parts of common rolt. The mobile tion of hoolies into & Integrament ports is welled Diving and into Constituent port resolution. The Constituent

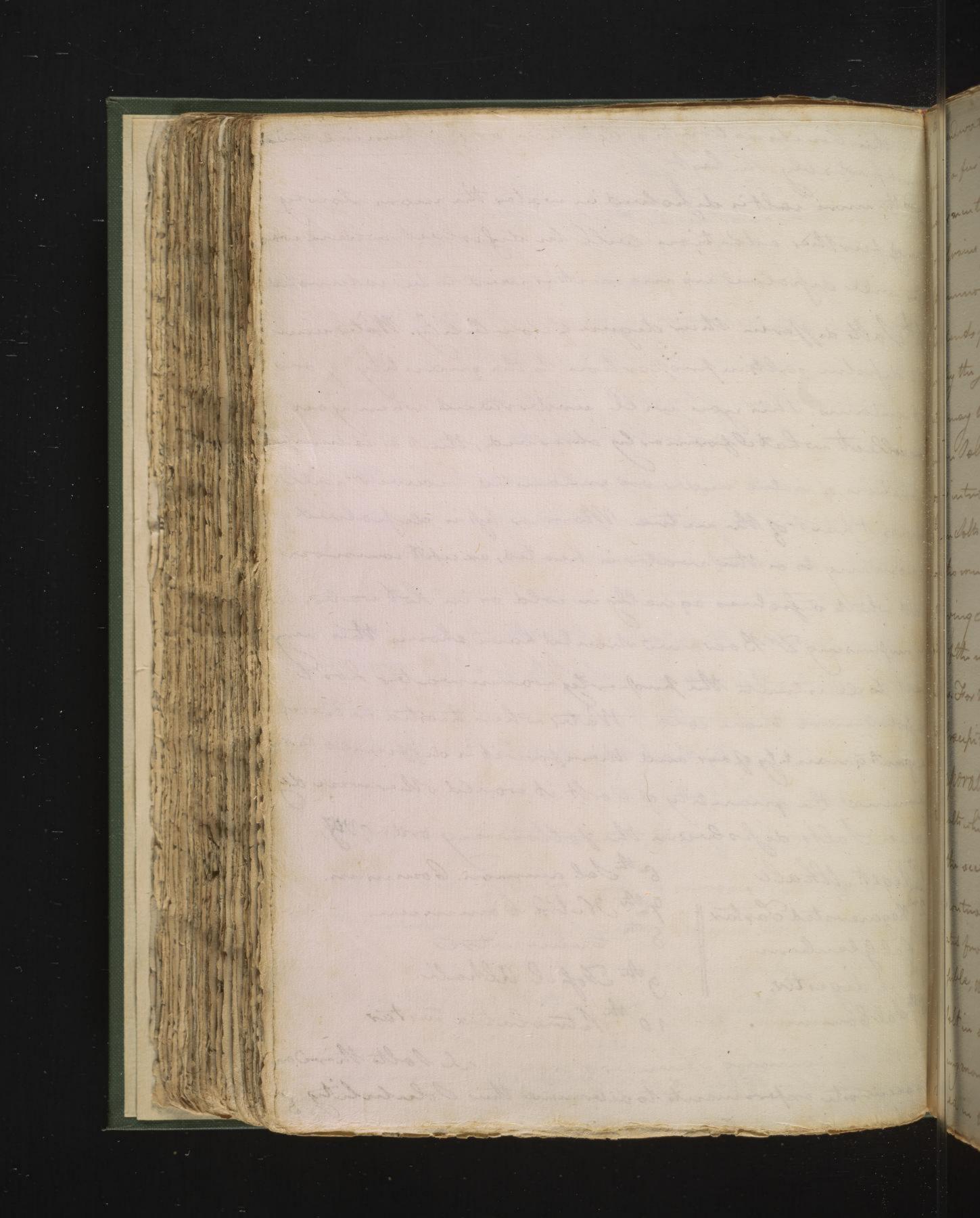
Mall date of the sumstand Wb tions houls? NO ON inth

and frenction. The different properties and dispositions of bodies over supposed to over from the defferent mode of aggregation in the court twent front eles thereof. We Shall divide the Objects of 6 hermstry into the following bloghes 2 Salto 4th Metals 5th Waters 3 Inflammables 6th airs After having furthed with these we Mallmahr some braitable metatames. bigetable intestances. Under ond or other of their heads will be comprehended all the umple production. of nothers Our divinor is in rome measured artificial: bostin one not salways presented to us in that sumple state in what we cound or them they are variously come limed with lond another; but it will be mort proper for us to come rider them in their mingle I tate.

give a firming the decision of our and a group of the way the same of the course of the way the first of the same of provide in the would be made to be will be with of the or etall Makany funded with their we who le ma tate. I to the well towners. ly war 1 his 2 be one or other of there is a cards and he con now in in some amount out freed aghit. the policy proximal of to an in the to every fire bell another; but it will be men proper for in

Ofdalts Sect. 1 at Talts on thousand that are fundle and Soluble not me flammable and give a mow of latt to the tonger hum they are called rapid. This definition is foully 1th round of the rolts one inflammable lind their they one not imple theing mined with a quantity of inflammonth matter 2. We om obliged to shower trigo welts by a negation time quality to disting in the Men from inflammable bodies Moltram white unatransparent and Brittle in their umplistate. 2 mbly become fluid by means of head of an saily con vested in to vapor. Tome morning a gundt egono of heat to evaponate while others evaponate in the open air. 3 they am all while in wo ter-Tis thought all salts are robuble in all bodies ourding to the quantity of water they contain. Some Tolto attract water so power fully that they depolur in the open six this is called delegnos comes. 1 In the solution of Solts in water their is an extracation gais, this often occasions a trested offer carane of for some time which has made rome prosons suppose that the water was in Junguated with a mineral. 2nd the Solution of all Bhry talline solts a bold in generated, ornol in all deligne reent much or Solts of tore tor. and the like Heating unavated. It is a Lovestion who

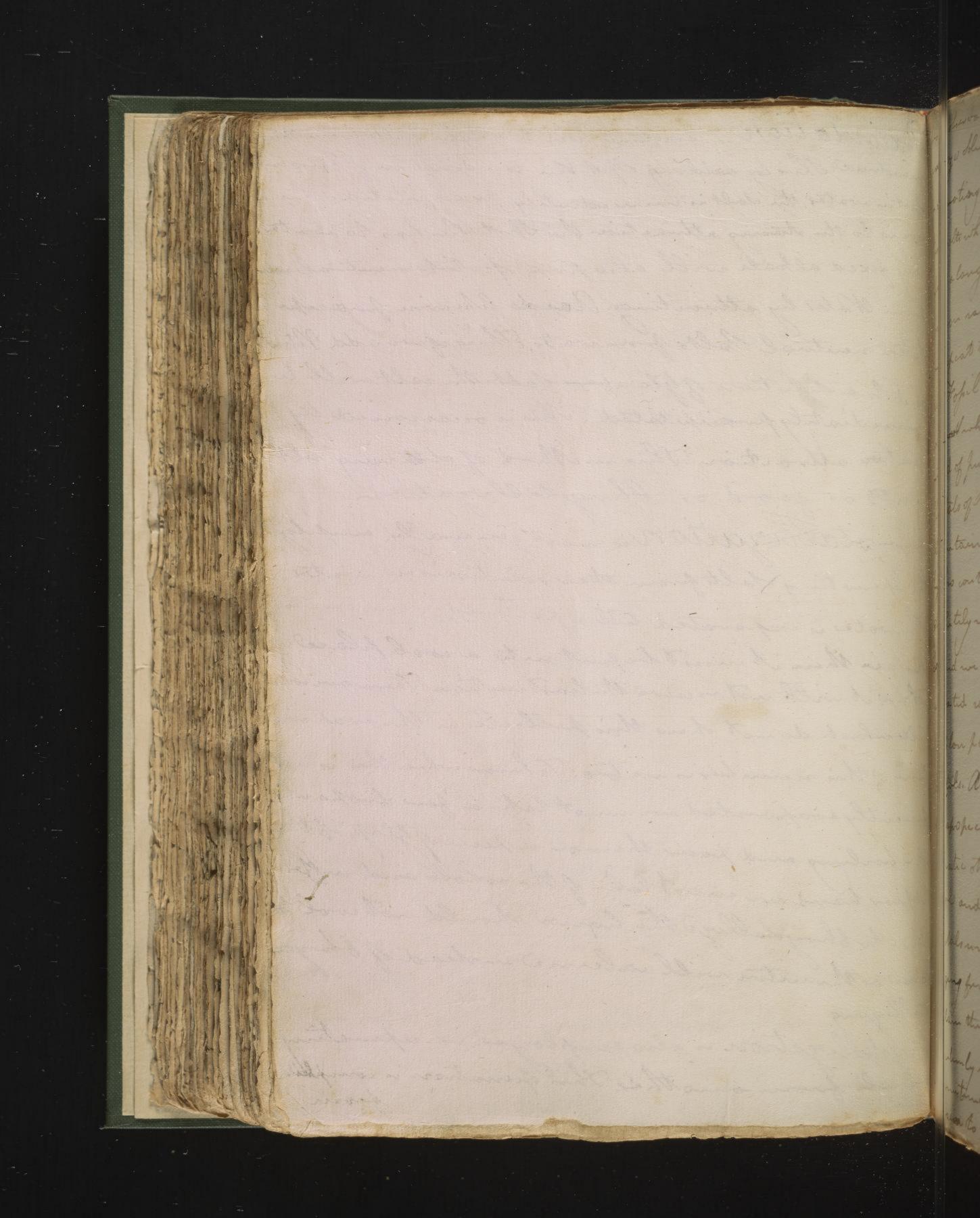
We are the modestances that any pradify on the of defe they are solded worked this superior will be as of the wall was enjoyed and entered the a there the to day! olur 1 I the one of the should be the first of the him to dealing in the sheen pair in mother minde tw and to wind how of and of the of the h- and a fet. I May become placed by uncoming thant ily an entered into vapor. Iouns my men ? ang to Who day from sir. I they saw a be interested in the time using. the girt all and to be one wolf the in all today and regionstify from the they we the . . . down to file the more process from fully that they defeated in the grant of the this Combination is a Solution or a Chemical mist most proteably the last. 3 w the mon roll in defolved in worter the mon slowly and further addition will be defeated when west the will defolive no more it is raid to be raturated At Salts differin their degun of Solutility. Water weres to depolue saltin propos tion to the quantity of ois it contains. This you will senderstand when you revollect what I formerly abserved, that a welmosted whition of nettre under one exhausted received will deposit part of the metire. Mom or life is obligated anonding to on the water is heated, except ionmore which defoluses agreally in wold or in hot water. A in un finsing Dr Boerhow Mould have shown this very selt to ellustrate the proporty warmwater has to apoluvnoire Man iold. Weter when healed is truester a grant quantity of six and Memfore it is diffrent to de termine the quantity of oft it would other win defit solve. Salts defolivin the following order, Vity, 6 th Sol ammon. Commun. 1 Neget: Alkali gth Sitra Commun. 2 " Regenerated Tostas 8º Culin utro 3 Val Glanlum 9th Fofil alhali 4th Sol digester. 10 th Mitwolated tostar 5 Dal Commun. For the Remaining Kunter of new al Solto there on no occurate experiments to determine their Tolubelity 5th



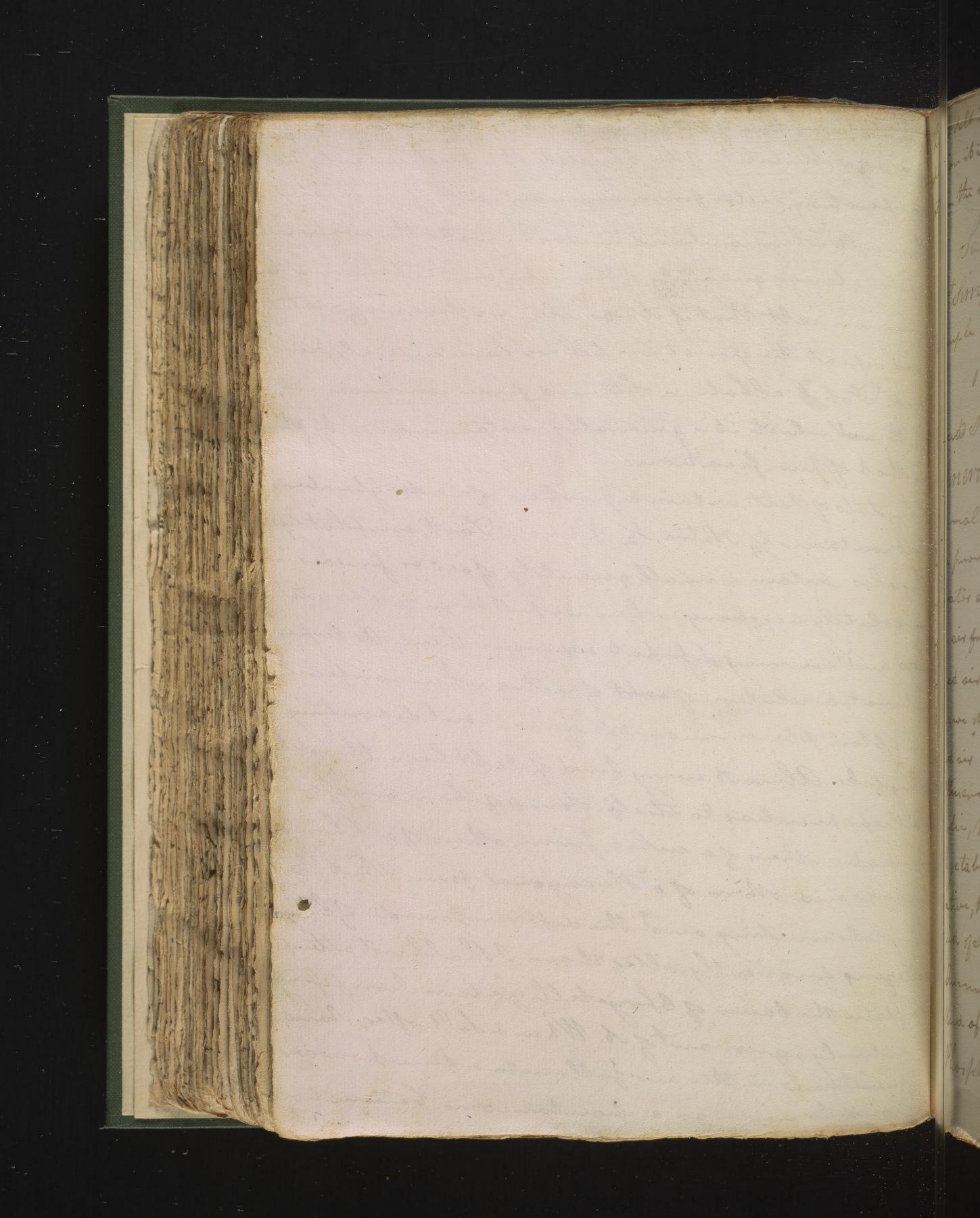
5. When wo tes has been saturated with any ralt it will defolue a further quantity of the ramo Soltified add mother mentral Solt to it. This Zi of water whe defeating 1001 12 Grains of borros. Sullin. but of we add a few grains of gool ommon it will defeater 4 times that quantity This depends probably on a first supply of water without duced by the fal ammon. I Saturated Solutions wither may be made to take up mon with by adding ommon Dolt. This depends also on a guesther grantity goode's introduced by the Common Solt. 6th When Solts our defolved in water it becomes sometimes more this sometimes more frequently lefs bully than before Maving Spoken of the Solutions of Solts we one now to troop of the method of separating their grown then do butions. For this them am those methods viz Evapora tion, Precipitation and Chrystellization. Evaporation in never employed only in procuring thou which am mes polle of things tellization; in upon the occount of their being so of to be decomposed, and to continued an empywheren after all the water is defrated from them. The hast und should be or gently or possible, the hobos the Jun is generally nifficient. Boy Solt in oblamed in this way which is the moron gits being more autreption and beautiful thou though ottomed in the ordinary harlings Precipitation

vate, the red al alle profestations

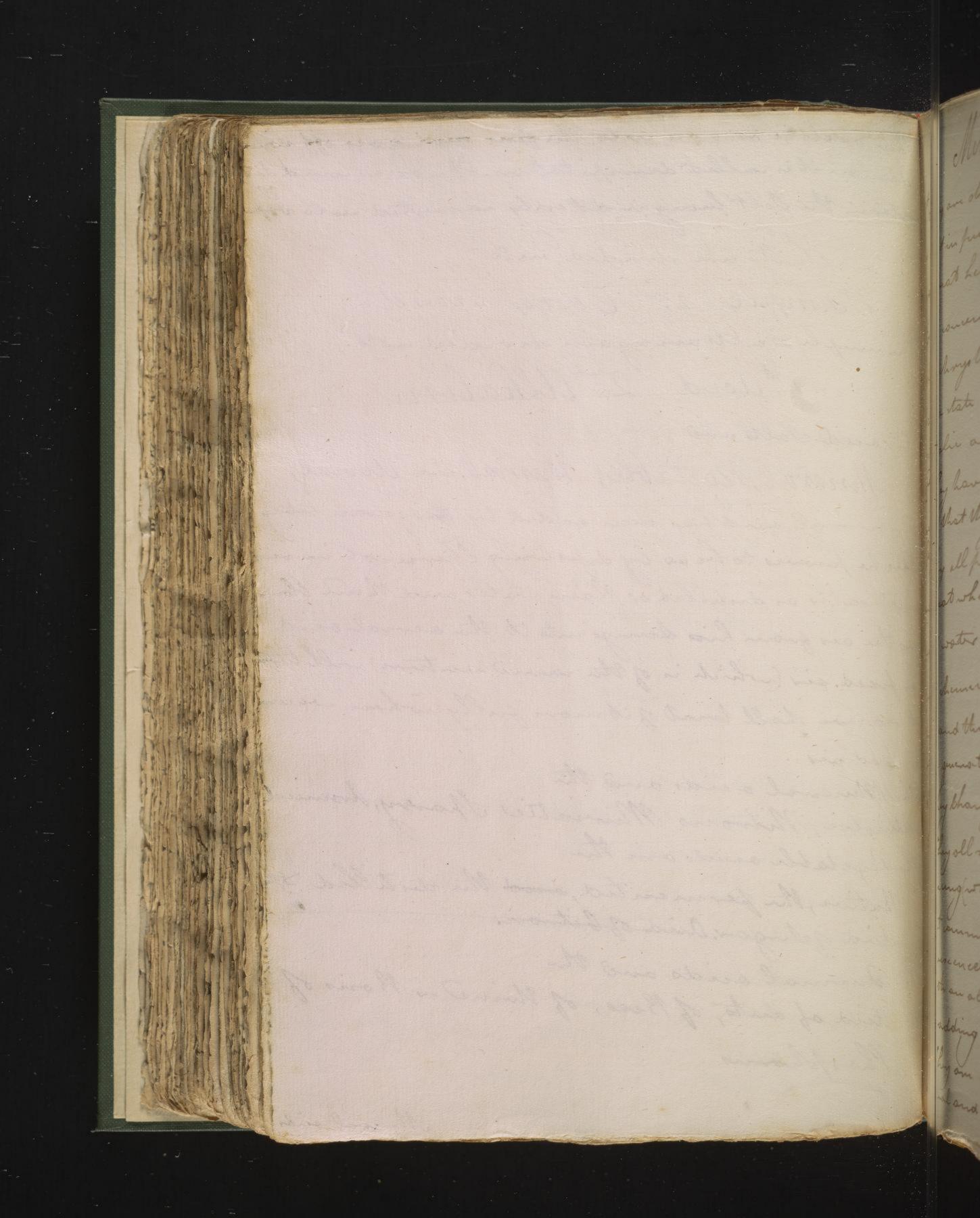
Præcepelattori, rometimes used to obtain salts from this menotrua: Thus by adding Spot. Vin to a Solution of Epromy Toltin water, the Solt is immediately proceputated. This is wing to the strong attraction the Shot. Men has to water Dry fixed alkali will also proceifutate mentival rolling from Water by attracting. Aceds like win procupi of toten neutrol Polts from water, Thus if we add Mind and to a solution of Glambers Salt the roll will be municipately prairietated This is occasioned by election allowation. This method of obtaining rolf unot or good or Chrystellization. Chrystallization is most generally employed in repending Solts from their solutions in water The water is evaporated till a pellula forms on the Surface then it must be put unto a cool place when it will not new the hast me tion. Then are some Solts which do not show this pellicle in the evaporage tion of this numbers on the To know when this is next freently evaporated we must lake a few drops while it is horling and hour themon or her offlap, it they approx hand we must lake of the whole and miffer Them to bling of alleged the liquion should not walt to soon or themeter will calcund withead of bhysal extallying Chrystellization is also employed in repensing out welt from one this, This spenation is completely



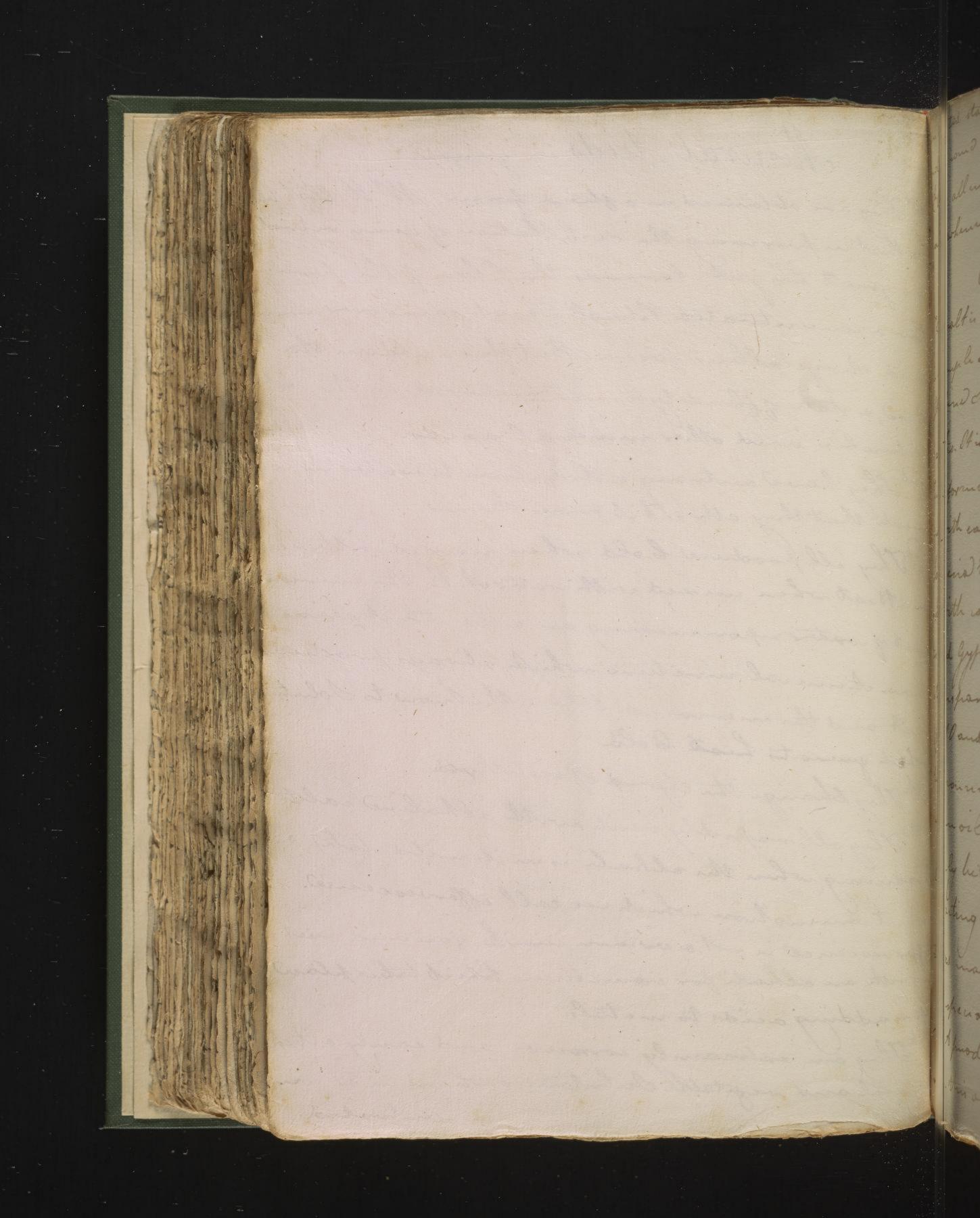
from observation of the disparity of different dolts in the first give soze Solubility of the Chrystals. It is portunely wed in repenationy meter from common ralt. If we depoled these with when combined in worm water the water will dipolo a longo quantity of the natur oud not more of the wer mon ralt Mat if it was weld: we then evaporation and repeat the openation till we have entirely print fied. Fofil alkali is obtained from common well with which it is generally writerminated by this method of purification. Chrystols of Solt wantain a portion of water Glanbers lolt son tains 3/4 Mitur 1/2 Miturol. Sort somiblet lep My also contain a small quantity of six or forwais in shoolintily ne exprany when we put them to thry stold show and we may defrepate oir from them. a superst naturated rolution of walt of wither when we fund in a blow place, vansing fluid with out depositing Chrystoles. Almost every hind of Jolt has a Chrystol go shopefuliss to thelf. Somoof them on go primatic others go culic form, others of a Rhomy hordol and others of a Hexagonal form. But the Chrystols westing and the different mode of bings tallezing fragmently alter them I shall not attempt to explain the bours of Bhoys tellingo tion deon fely my uly entinely ignorant of it. When a Solt offer Sandali ing sometimes in the six foll, into a fine howder Wir raise to undergo a sportaneous Columation



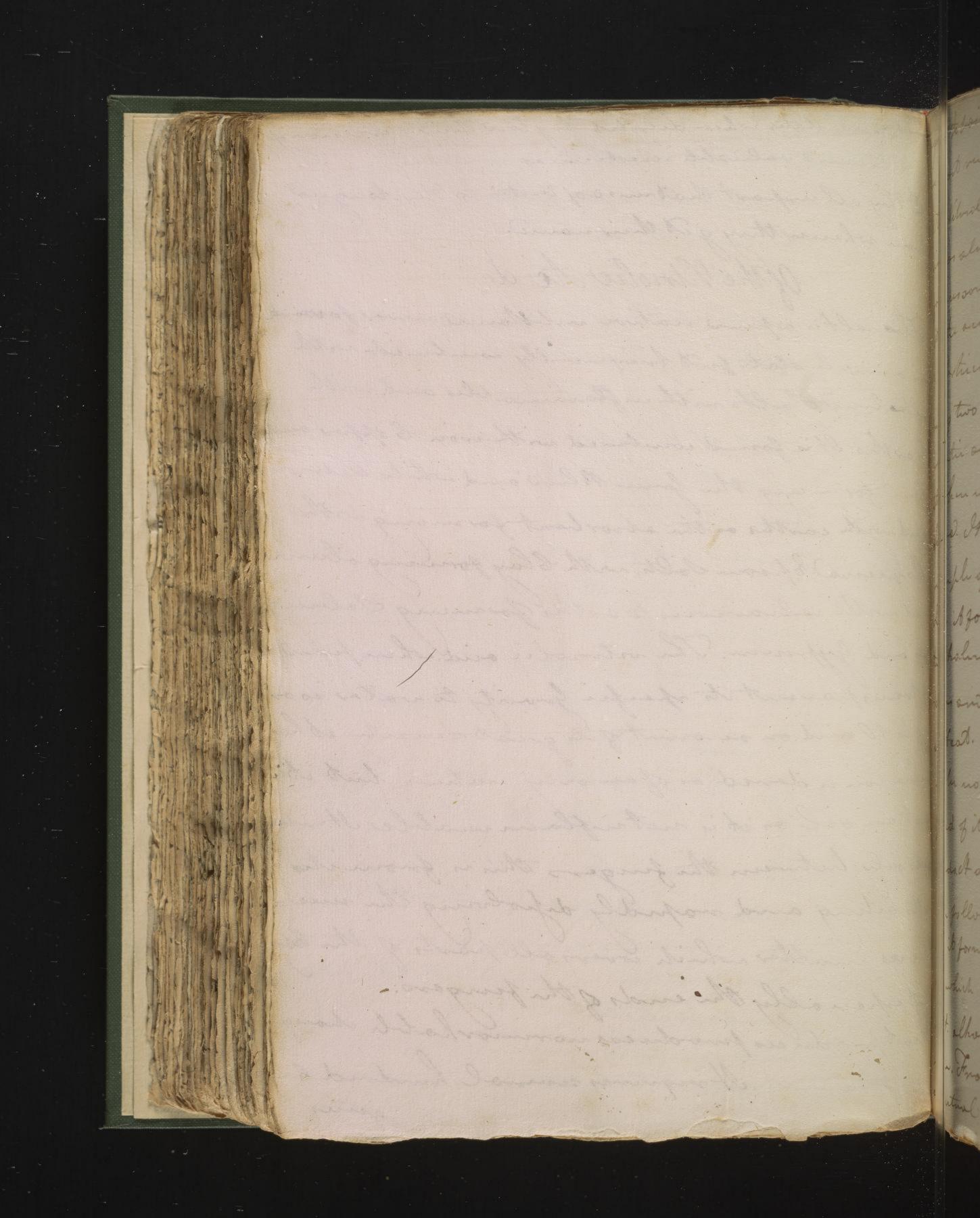
When a solt is honown into the fine and goes off will explanor it is alled deempitation. It is occasioned by water in the Solt bring modelenly converted into vapor Salts avi divided into 1 thoughte 2nd Comprounds The much Solts am again divided neto 1st acid 2 allhaline The acide Solto and Mineral, Rottable, Anumal and devial, The armal acid has been solded by Berymon lettly This he provers to be as by depolining Eleverol in very purdirates or dubilled or Rain water and Mind blow ing the air from his Sungi into it, the acriol acid or fixed six (which is of the rams nothing) well turn ib ved: we shall limat of it more fully when we come to fire ed aid The Muchol o cids and the Vitriolie, Mitrous Muniatic Sparry, Arsenical The Negetable saids om the Native, the permented, and the distilled Style aid of Sugar. aid of Citron. The Durmal saids and the acid of auto, of Bees, of Unine or Bois of Phosphones Mireval outs



Mineral teids in general It They are oblained in a plind form. M' Hellot tell we that in purming the destillation of gruen or triols to a gunat height towards the blon of the opena all tion a commented Milmolin said camed over in of which horys tolland for m. But this is reldom the base, a state of thudity is most matural to the oit vituralie and other menal acids. Ind They have a strong attraction to water in so much that they attracts is from the air 3. They all produce 6 old when muced with in and theat when mused with water N.B. the enemoning hat of votes whom mining an acid with it arins from humanal muse time which always produced hat and the memored bold of the Imow to Solution which generates hat bold 4th They Change the Sympt of violets god 5the Thy oll naprolly with with alhaline ralts producing when the alkali is in its wild state) and indent ommotion which we call effervescence. Efferverence is not a vertain mork for acid meet ing with an alkali for name thing this takes plan whom adding acids to me tals. They am extramely worrowine and early out oh annual and vegetable dulastances whend in a com =contracted



controlled state, when deluted they low their overmony and become o voluable medicines 4th They all unport that mis of taste to the tongue from when they get their name. Of the Vitriolic told This solt is a form native substance never formul in a rining le state but frequently combined with Maline Solts with uflamme bles and with Earths. It is found combined with ivon & oppos and Time forming the Green Blue and white Mitrisle and with earths as the absorbent forming with Magneria & from Solts, with blay forming olumes and with coleanions & arths forming delining to and gypnim. The ortwolic acid when pund istwansparant its specific growity to voter is on 19 to 10 and on secount of its great density is hor burn windered or of an oily nature, but itil not an oil or it is not ruflam mable. It model folsorly between the Jungers this is from ites throating and napidly depoloring the me Anosas matter which were all parts of the tody but especially the ends of the Jungaro. Heat produces produces novimor hobbe change spon this and Anguns wend hundred de



Jugues to boil or evapone tib. The effects of muching in most vunashable the Vilorolii acid menter with the other menol seids or also with the vigetable and animal and produces some heat. Does this own from its union with the siids of the routained Lelewogenous Moth to. It bestiern graid is sometimes produced by com living two different saids together. The networkson mundin seids do not actupor gold in a upanate tate when so melined formingegned Rignes they upolus. It has the shonged attraction for the punisher of inflammability, combined with which A formis Sulphur. It mules with all # the olholing Jolto producing when the will the Nower and in their meld state Efferversement and Heat. But when the olhali'is Courtie then will be no effernessence or in that tate it is des pured of its find air whow which the effervisus depends. A attraction for the olhaline welts is in the following and fint fofial alhali with forms Glanten salts, record ungetable of ha with which it forms withroleted tostar and 3. by Nolot. alholi with which it forms vituralic our all mon. From a Combination of an acid alholy anentral Solt is formed. 2 nd

It attracts alhelies mon Man my other acid and duon how oll the untirol rolts formed the other side lito las M la ma The state of the s we in the A CHARLES OF THE PARTY OF THE P gon ing A i in with The state of the s no, lity, The state of the s by wich the same of the same of the same of the for une whole of day A State & Same Alastonia all his a The state of the s hen ofm and the second or the farmer some selfer or ine from

"It with with most of the earths with the balomous it forms a Substance colled Telimites: with sommen blay it forms alum and with earth of morgania bhaom rolt. It is also found combined the flats and win mond stones 3rd It has the Stronger ottvaction for the principle of Inflammability the dark bolor which is sometimes of= served in the vitriolie acid is not natural to it but is owing to some heterogeneous hody being defolva in it with which bouloins the principle of Inflorent mobility, it may be rendered wholefo by boiling by which there matters and either diffifuated or Commend. When combined with the pure from who of In flam materlity it forms Sulphur In Inthus and have the greatest moderned of the Shang I produced by mexture. The vitiviolic acid and from. of Inflow: in their who note Mate one both very or tive but melphus is a muld Inlesting and may be taken in the System in cound'in In quantities with very little effect. Minted to the oil of olives it produces a hund of dark sulistance unclas to For from which sulfatures may be produced. It uniter with of: Trebenth: with greating hetwority producing heat ebullition and coprous Junes. It uniter with first of wine problecing

ib: de with r Jum of he? they a has the throught shipschoon for the promes the to has 6 il other Hen it is en a ye come he committee one work for is where to bordening the present the fre bus the water her for the sound for sound and wo love to the nt nder tick this I mather and esther deflifes the the Borth with he it desperant amount a la forger tin two and him of the given the windlesser is The mite to Ino with rigeth n ofu Molt that at At ut light Ed With

It wit: dule: and the vitriol: ather the Mounites with all the metals except fold. It will not united with water It must be highly concentrated to difere 6 offer. All other metale require a boncentrated acid and a horling heat to defrolve them 5th Ithas a shrong attraction to water so that Zing will attract zi of water from the air in 24 hours. Hence it enters into the bohontion of meneral waters If produces a commolerable dignes of heat when mind with water which becomes milky and dehonits an Borthy ndiment, which is a selectites formed by the union of the Borth contained in the water and the Wit. aid. with See it generates a considerable degne of bold in this bow a true Solution to ha have 6th It muite with all animal and vegetable Inhitances corrading or defactiving them; with them it forms a blowly bolos in proportion to the of they boutain It will united. with vigetables, thus it is found sometimes sometimed with roumon wood. In vitriolic acid is nepposed to glad blustifully inthis in. This spunion is founded on the following facts: if olhaline Salts bu aspond to the air for some time we on told that Ahr vitniolie Solts one formed according tothe matum of the olhali we employ. But not have macon to doubtthe accuracy of the experiment. Vogel tellows he exhound dal Tool: to the oir for 6 months and devot no Change in it. But further if the six abounded with

don to the deed have making the time and he langh by concertinated to defend as in instabinguine a description in heart the defeature them a strang attingetion to works so that an acid i va toble v mi hat wo illo to mol: time id on girll ation witt & ano line thish tu phen into thed? July and of hul alh

this acid so much as has here nephoned it would wantimes he ollected and fall in nain or I now. M'Morgran would nothing any said in ather of them. Mothan supposed that wordingst be ronverted into green withist by being enfronce to their but other seids may form a helistanew murlos to grun Witnish when combined with iron. Then is no doubt of an acid in the view which arises from the bermentation Jorgetoble melulances writineally found floating wit Thus we no that I non is corroded by it. But lates expensements Then that water will worode inon. This the moisture of the ais will corrode won utenile it thingow is not owing to the vetriol: and Electricity has been supposed to contain! His acid as me tallie Inholances how how hum Changed Tysto action. But Blutmenty, nums to be found of in of an aid to notione and it is quite probable an acid of a harticulor lind & herhales it corries with it the aid defound in the atmosphero. The vituolie acid is never found in a hum Intacthed State his always combined with some other Intestance. There and no proofs of the vitrolic acid axisty in the howels of the earth in a found delached Hate ordon helphord (Amgin) The vitnislic acid has the strong wood = thation for the of hence it is most frequently found in the form of hull hur. It is also found somehined with the Johnle alkali forming Glodoliers Talt and with this vez getable alkalis Jorning vitriolated Tortar which is found notive in many vegetables and may hopmound from their acids asher. His vontimes is found combined with beleaveour Inhitances in the Hate of Delicites and with argillacions

Mate A Martis M. vitro ma with ditis me Dito ven knozn is on or ys with go of gri m le ha if alm in in the In sure it frits

orgillaceous basthes in Ahn State of a lum likemen I dometimes with Plate and common Stone. With many of the metals Inone Copper and Zund am the metallic bodies with which it is most frequently weited by notund. howth I now it forms Tol Martis, green vetniol or Coppens with Copper of forms The or Roman vitural, and with Zind white vitural. When combined with other metals it gets its name from them. It is frequently found in mineral was two most commonly from a decomposition Lottly so great is it allocation for all the Industrances in naturalted it is sometimes found withwith even wood itself. The vitriolie acid is most wonder commonly extracted from vituiol alum and Inthhus. The practice of ohtoining it from slum is now much neglected. Vitriolo and Tulkhur and most employed: from the lost 15 posts out of 16 how here procured, for the process we May and Boerhave's Chemistry. When Grun vetniol is em: played it is bust to column it to defishet its water and prevent its furior. Formerly not more thou 2 or 3 lunas werd promed from One fround, by burning it her bound handen or under a bell. Howher gunfrowed this method by admitting frush air there a long, tube, but by this man a great quantity was defenhated in wapor. bor nelius Enclude has greatly unfmoved the method of obtaining it from Outhbur. It is by the add tion of netter, by which bounded in with the external air. The proportion in 6 th of wither to 100 th of hulh hus. The wither or workalt

in William County The Lang I william morning to Comment and the property of the second of the second or and I among the ground for any and the commendation is willing extremy for a let the fatherman in an telemon I the ve 一本山 to action and he colder. The prosters of the many y com lity cotes 16 hand been processed, for the process willing the the pro. East Electricity When print wateride tun rang mu mos in forman Period of med amount the jude of to w itro in copio property of feeding flame. Mr Ward hor lately strand who but for the method her pursues of proming the velocities oud from Outhhus. This method is only in the Bounds of a few in England and Scottand. Various conjectures have been formed concerning the manner in which this process was corred on . If we may judge from the unit common nige of the refuls it is nothing but some Influng unprovement of the method und by Drebble. Worth we howlie ouid originally all combined with Int-How so in the form of Julphur and has it from octional Carris (od Volcomo's sublerranean Fines de) hun deiomposed and comband with metals alhaline Polts De was it oris anolly combined with the slost In listences and on account, fits agenter Munction to the of than to any other Intestand for ook their frequently and went over to it. Many things might be raid on both Tider the former however sums most priorboble. The Therefie browity of the witness vide in to water as 19 to 10. The Volatile vetricle acid is only the vetriol: acid mitted with a preparability Lautity of to and on vily matterin moll quantity. Pynongma, vitriol: and vid. Dyllalms) Of the netrous ted The netrous acid is next in degree to the vetriolie, It is a fopil butistance and never found much les but most com monly found combined with an alhali forming the Nitre of the Moho; when from it is of a redder bolor and uneti coprome frames. The fumes of it and and pois

lilor to 11 the me Fr MBy - ma chans a soluti me and oll 1 This one " add Hace to the nitro and he sets it tot onole till ased a the a the alen

sonous neceved into the lungs in over so mall quantity pro= duce pain. It is found in a compound I tate united with the topil or vegetable alholi The networm said is promoved from these Talts by 3 Mes Those 1. to By adding Brichdu to or blay to wither . This octions a mechanical mounes by preventing funon and hosting ing verolution. Some how Monght the brick dust or blog cartained vetwolie acid and this decomposed thousand But AM Post of Barlin found that blay hisfully from from all value matter would will asperate the aid This is one There of oddetron. This method is now loid onde on occount of the intered heat necessary. I'm By adding fran vitriol. In this the vetriol, acid for rabes the iron and unites with the alkaline hos is of the nitre and the naturns acid animin med fumes the hat prevents it from jouring with the iron. Tome odd was to to constern the furner but this much weakens the acid: it is better to colcin the ortain this method is only und in large provefors. 300 By adding a boncentrated vetricle and which ats tacks the alkaline Bosis of the witne and uts Ahr nice mour aid from. This is attended with much left heat, and thought than ony other of the methods the nitmin to be valeuned when and want a & strong and The quaral mule is to add short of victorialic acid to I hostite of mitme. By this method it is oblamed most here. Mr Ly Revis objects to this method he rays it leaves an insolute

mercial and the leaves the form have no Ill and a moral minimum of the purchase through you Ilm & Ton we of the the earliest man they promised with a forward m of n work with the entire of the Formers of the wal it the v man a d to itm o the mit wir way it or on the und in longs provefores ut ma with with In a.

ble venducum which rannot be bleamed from the vetort. The London College rescommend to add 3 harts of meters to one of vetnicle oriol the unducern is velmo lated tostor. When we do not want to humor we the molume the find propostion in the best: the mixtum should be expos ud spoodwally to heat untill ved fumes aniso. Then Jumes no bute will winging. Mr Wolf in the Philoso-Miral Thousactions has given an account of a very inquirons Contrivance for confusing and con densing then funces by means of water. This vapors one not sufficient to produce any heat in the way Fr. The acid this oblamed is generally wouldened with the veturolic acid and also with the municities from a decomposition of the common half which the nitre always contains. How one there to be upon ted from it? the tumer on is not difficult : the vitarities and may be attained by who hatron either by destiling it over on the some of a frith hor tion of mitrie Alm alhali Jushech will attract the vitriolie acid. It is fred from the home atic acid by adding a solution of silver in the network and, rogreat is the attraction the wheeles for the ministic acid that it hees fully for when the networm said with which # it was sombined and mites with the mumotic for ming with it an insoluble bom! It When writed with the munnotic acid it forms

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agno Regia so called from its depolving Gold which is the hing of mitals. It is the only when to of this me tal. J'y It muites with thecelies with heat and & fles we seemed forming different mentional dolts according to the olkohis employed. 3. With mot Earths & blays it forms Oalts 4th With the to with the quatert volence and with Ini flammables. At alf an anno of the introver acid added to a quantity of the Ol. Tember the with a few drops of the Ul. vitriol. highly concentrated will burt into a flame The case & havoiter whie of this oud is its great attraction 5. It mites with all the metals exult Gold, It worroder that and antimony without mishending or depoling, 6th Mth water Bonsing Elullition Heat and fumes. It produces ruterer bold with we and snow. It difrolves vegetable and aurmal metitoners like the ortviol aid It is used by Dyers in the Lying of Scorlet, by Refiners in parting I liver and Gold . By Book builders to morth hopes and by ingravers for nitching in bother and Brofs. Of the Muratic Acid This acid is neither so volatile nor so herstful to the Tungs as the netrons. It emit fumes of a Golden Color which weell like saffron. Its specefice growity is to water as 12 to 10. Heat only difficulties its Water. This acid is a natural Intitance, but is never bound in a pund uncompounded State. It is found

lund the second of th al d dal different our time to selet according to the In some William N. Earling of forms lake: " vigit the stee of an the operation makes and and the stee of to Holy an Sun of the interess sied added to m and they of the the Floredien the mitte a few durys of the fillen The secretary consists that will be a secretary the second of the second he by who the property of the party was a property of the second 1 mite in lale it when it oth a In Ino word by Types in the types of the let by histories of the With

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in a conclinad State in common Solt which is promind in alundamen from the Sea and is duy out of the with mostly in lange pellucid dumps and thence alled Sal gen. It is likewise in Sal ammoniae. and some day in Borax. It is found in annual and vigitable substances Unice Ve? It is commonly detained from I ca Jall from which it may be de of composed by with and vitriol 1 If unites with the nituous acid and forms og. Regia the only robert for Gold which is the king of metals. 22 It unites with all the alkalies forming mentual Solts 3th It womlines with mode earth. forming a testim hind with aleareous it forms Oal aumow. Jixum 4th Jeanely with Inflammables. It will not unite with oil on account of the great quantity of water it 6 outsins With ardent Minits it forms a memotic the.

5 th With all metals except Gold defolving them It will not depaled tim in the bold. 6th With water it does not produce heat equal to the vitrio-lie and nitroms acids. ythe It defolves are mal and vegetable nelistances It does not give there a black bolor. It is employed by anotomists for corroding their Axpharations It is obtained from Common Talt first by ad ? ding & arther or lands to reperate the acid from its alhalind Bois. This method is desembed and highly commended by Glaseles.

The transmission of the state o when the construction in the same and the which de with mostly in large puller is beauth and there 3 mg// y 21 uid to and some sof in Borows of in former in amount suid wit and ongo to believe andistances theires Helich is common ! the mar delanced from leadeland from which it may be the flore me tion of hand by untere and victimal the lyo The lams proportion is to be und or in the destillate Met in of the netnous said. Some of the ortholique id will unite with the murratic and it is to be reperale It wind by adding coleanous & orth. this mets with the This sid Milara vitniolie and falls to the Bottom in the for form of. of Oelanites. It has been rommon to And water in ting In Ruceves to confine the vapors which one mond , -tile than thow of the Melmons or viturolic ocids. that rea turate All Wills method renders this unaledory and His me thod a vetnillie acid is obtained strong enough to form allher with ordered Openits give thee southand between the

and By adding the nelnows acid to the common falt which detaches the muriatie acid 3rd By adding round of the compounds of the vitrolic sid to it. We cannot no the Bompounds of the vetrad suid with metals on account of the great attraction An munitie oud how for them Intestances. The flores martiales and an undance of this strong attract, tion. It is most frequently oblained by using olune 4th By odding hurd Istmol: acid to it This is the List while Method * Marry acid It was descovered By Motheele occording to Fouriery This acid has been lotely added to the Minoral outs by Mr Bergman. It is found to exist from only in the form of vapor in which State, it has a very henchang ith in u the for ting Smell, extingueshes flame and hills am mals ater 1 that briathe it. It is obtained by means of head from the water with which it is generally combined the out in other respects it exects like other acids. Mr Schiele y on a Inove that it depalves filicions Earths and Doil: d stran Preistly rays that it corrodes Glass. If this is the bow it must be unpopolable to hech it ion fund in Nega uls. It unites with all the Earths; it outs on most Metals and is a strong bourtie when applied to the Thin W. It worrodes animal and vigetable Tube Hances. When weed with water a gust heat is hoo-les =dund and a behite notiment is deposited. En to its Origin it is oblamed from a certain

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the biles were the method with to de la stra tra masona les as d e adeline a some Dog Will complete and the interest in The commend was the Born pour well of the or the married on mount of the grant allenders my mathe a cit has for their I sulation in united to an amplance of this iterory retires to to in ordering hundle breed so id to the war in n Alm

hind of Sorth bolled Spar. It is probably only a very volatile pungent Meries of the muniatie Kied. Of the Vegetable Ucids Then partock of the general nature of the numeral aids and popul most of their distinguishing hospities but one much weaker. They effervere with alkalies in port sous teste to the tongue and Change the Typul of violets to a rid 6 olos. They on all stelamed from we getable substances and may be reduced to 3 hinds the Native, Fermented and Destilled of hohich and Shall trat severally. Boerhand mentions 5. His fermen = tans in the same with thelmouts gos Oylvestire and is nothing anow than the fixed six of the Bady flying If among the Vigetables Sorvel only yields a Bhrystat lyalle Salt. From 20th of the Leaves in oblained 6th of the Polt in a blind State, from which Zij Zij and a 77 h of bhrystollized Poltmay he promised. Of the Natura Reid This is oblamed by expression from lines Lemons Inanger bitron sorrel &. When wanted for herhing they should be waponated to the bounstence of Honey to privered bermentation or they contain a menclagenous and thich mother. It is apt to contract an empyreuma in evaluation unless the heat is gradual and gentle! Thank or Mob is made in this manner and in order to prevent the empyreuma of to would be better not to warphrate it to so thick a Consistence and to add Jones!

himand i This gen the head by a ryclo 4 # We pre. The state ldn foo

somed Minit which will howent fermentation and will Atter same time give it a gusteful flavor. I'm native said unites with Alhaline Tolto Junducing head and & Herviscence with the vigitable alhalist former the Soline mexture. It has no attraction for the primable of inflormmable lity. It unite with and depolies absorbent & arths. A depolies I non, bother and head: we are derected from heure to The very can trover not to heep it in Bother vefuls or with this metal it forms a boppound very deletes rious to the System. A does not act on vigetable or on animal Substances. It exists in quature Mundoner in Jumes fruit particularly before they on rife for when they ord rishe it is so envellaped in sugar or to prevent its oction. Of the Fermented toid This is generally ather actours tastarons: The ocetons is generally delisted with water. The acetous acid is very easily and fully concentrated by means of Bongelation or by destillations from verdignis or by combining it with absorbed & orther and then distilling it from them By Bongelation Venegor may be very much soncer traz ted them 4 th of it expressed to the Gold were reduced to the by or bullen: And this git exposed to a very niene frost for one night how hem reduced to a spoonfull The bold much be 12° bolow the freezing point. Tina good way to concentrate it by foreging to request to mealles but bulk and mendes it more early tnoushvitable

marting of han no a metal it forms a loopshowed were obli one sight it is an envillabed in huger Extra Framewilled Stouch out devous when disposed are for some hours and it is notified # 1 flan ud von to som Word and the 12° below the freezeway of may 41 Wol muchly brush brith and runder in

transportable. This was very strong and borrosive and lettle in prior to the menonal acide. It shoulie Gravity deffers his lettle from that of water. It jours with alhalies forming Neutral Solts; it also joins with eartho (vid Tylls hus) Ithos. little attraction for inflammables and unites muther with ordered Musitinos with oils. At Checks fermentation like all other acids and consider the metals particularly head and Ivon: with Lead it former Jacehar: Toturni. Holso, acts whom bother and with it forms reever guis. A entroits the virtues of mer curry. It has but a small allnotton for water and makes but a slight impropion on ommel and veg clable in Litanus and extracts the virtues of the latter but slowly except in some instances fortiens larly with Ignills with which it forms the acetum Falleticum. Fortonous acid duffers from the fermented acetous in not being robuble in Merits of vine. It also deffers from the outour in not forming Jouchas: Saturnie with Lad and for ming defferent compounds with the alhalin Tolts. It unter with alhalies producing hend and effervesseened. It uniter and depolier bal: comous conthes and has but a slander allnaction for inflammenable bodier. It defolves 6 offer head and Ivon and has but a slight allwartion for water. It oction on anemal and vegetable unhelawer is not remarkable. A rigium 14 times its weight of was to to depolor it. It contains an oily inflam mobble met. Tortos is deponted on the lide and Bots tous

no atut It they on very week they have rowe of the common pro tien of the other acide but differ from the other vegetable ha acids in this that they exist for mally in vegetables, Gany ramos breatmented but by destillation who cos the a ser other may be obtained by Expression of Fermenten it also

toms of wine boshs different wines deposit different mon ; titus git. Its bolor is enther med or white occording, to the Bolor of the wine. Ahenesh wine deposite a great quantity of it and hence becomes old Hoch. It is found in greats or mostler quantities in proportion to the goodness of the wine, there rech old wines will offord very little whilst the thin and hoor wines, contain the most Hence low and their wines one unproper in most cases or they writain a long houtity of seid and or all acids an dedative. It may he ob lained by evaporating the Lees of wine. Fortor in its med state is never used in medecine of horizing. The former way of purposing it was by hailing it in water and horling it and humming off the Pellicle which from there is called 6 runs tostani. The forment method of perporing it is by depolving it and neffering it to Chrystollige. The very best Turyar may be made by adding a letter tortor to the liquor which is to undergo the acetous for mentution. If the Distilled acid This has been but lettle wronght upon by the Chemists. It is sometimes produced from the defferent The cier of the Kir by distilling the Bhips to H'is also antwested from Amelies and from Tor. If the Chihr of the fee Inw one destilled they yeeld ferst water then an acid afterwords an executiel oil then on Emf. yran mater

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4 hyrew it made and much wang is an energy cause on they continue a large Kently 7 From ed and or all accide and dedations. The an served by evoporations the wise of evenish. Atta She the comment and althoritarious of mes and prosperse de por a mu a find which from there is a content to remark to them the lin a ment muchood of purposing it in by depoling w tellu think is to rendinge the execution for 计 4 九

improvementie oil. Then may be oblaced schenately & enther by unleiting the vefores or by fixing different veple. to the month of the neceives: The sid show lot be after. words Concentrated by subjecting it to a 2 nd sotils lation. This acid remoles in For and gives For water its medicinal virtues. For but little dephliquated and abounding with unpursties in hist. Dence That coming from Norway is better Mon American Tor. From what we observe of the effects of Lea made of Pine budde and of For water we am unclimed to thinh they have many medicinal vistues and descrive many researches. This and has the come mon properties of other acids vig. it unites with Alholies absorbent and Balcarcons earthwand netellie Inlistances. It may be concentrated by evaporation but this is oft to give it as it gives vuegar and & mpyremmatic Tote. Congelation also concentrates of animal etcids There on the acid Ants the claid of Bees and the oud of morine or the Basis of Phosphorus. Ley for in with Lead Joechow. Taturni which however is defferent from that which is oblamed by venegar in harting from it 2 rad in destillation without any Change being wronght upon it. It is wereenlooted by heart built if this is strong it contracts on anjugacionatri taste

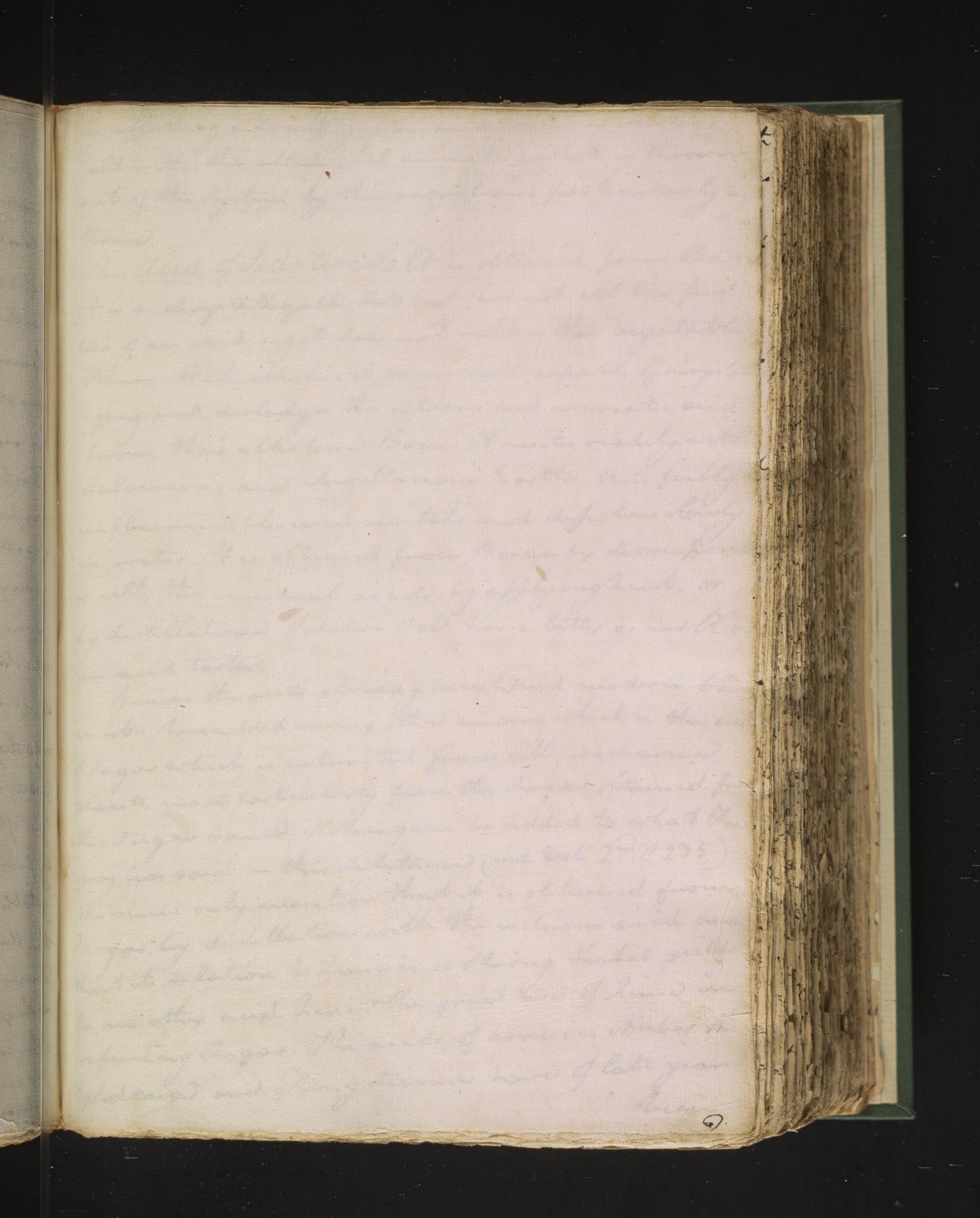
where he conducting the supplies or my few and willbrown I whill other was the of the meaning the paid thought be again the more done much and the section of the de all the section in divisional worthers, "Too little de philippensted and were from Norway is better those there were for From what was also wines of the effects of Elad made 0209 They have I amoney much end and mounty researcher This over a how the coins for a pury il others murgin and E mily among the Death - Bom go later Their on the Chief the the chois of Bees and the orid or the Mario of Phospohornes . Long for me with they

and odows. It forms oblong Bhrystals with vegetable alhalies, it unites with Volat: alhali and forms a de lequerent Solt. It depolves all Coleareons Earths But hos no vernos habele action on suflammables. It defortunes the boles of most metals harhentory of) and Eopher. It defolves evon filingo but has no ef fut on its Calees. It depolies the Colces of Lead or Municip, but has no effect on it in its metallie Itate. A lihe wine depolves 4 with vrolence. It has no effect on 5 or 13.W. Imong Ammal oriots we must mention on oud shlowed from out, thow onemale which have not one y afforded an instruction lepon Philosophero but how also laid of me a field of enguery for the Chan Then said is a legisor new ted into certain by for a purpose not honow. We may parciew it by the Intelle if we turn up one Aut Will in the Spring or Autumn. It is many sandy promound by distilling a quantity of that with water. Bees Worfer de have this acid and rome have thought that by emitting rome of it into the wound the produced the poin that is cound by this The deid of Mrine when combined the forms Mosphones. It is a nortine Intolone w Jound in the Unino of animals. The effects of head whom it on not very rumarhabled. It muetes with the vegetable elhali and forms oblong bhrystals. It is maturally

ted general doct it discolor and converses there is I defeated were decired for the mass it d'alien d'hidradereste la Carlein et de med fl amal we stron the six a V John revening the their accord is a leaguest according to lead the Aon ein performent hermany proceeded by the douby no turn up on that the the the Maning or the turned the an High couly promoud by distilling a queently to that you at the worted Hear Merps En have this ouist ound some Zu & Min how thought that by anothing round of it wite the way in de the produced the pain that it con by week ge ble ? The Reid of Mornes where were been at the of & & I mak confederation . Their a resortion destroles to Joine of in Miss m qua amended The effects of him to expend on In server oud forms otherny bingstands of

united to volatile alkali from which may be reperated! by head or it adheres but slightly differing Inour Come mon Tol ammon: At so strongly at attracts fixed olhalis that it decomposes common lott and not vitriolated Tortor to unite with their Boses of unites with Easther and has a strong attraction to In -Hammable Intertunes. The its almostron for Lolis very strong yet it soon and modely hosts with it to the oir when exposed to it. The light and head of Thosphonns is owing to the for of the gradually enouping. When deluted with two or 3 times its weight of water it defolier Zind. It presepitates Regular of centimony, how, door, whose, merenny and Barmeth Jone the nitrous acid and depolus them. It preche Aster Tim from agna Regna. I'm Phosphonic oud defrolver mon time Ime and Coleolt. It wornder q and Hightly defrolver in water. Air oblamed entirely from the Univer of aurmals. From 20 Gallons of Univer Ziv of Mis Jold has been Stained. It walennes unchange by procepus of the System and it is probable that it is a very getable Polt as it is found in the greatest Quantity in Hu Umud of thow are made which find on vigetables From hum ow may understand why vigitable ond meh quat lesvier in the Severy. The purdominance of the processed volatile alkali in the Intern in the proximate course of survey and this occasions a hetweent disportion in the humors Nigetable food

into best to and has a though attendant to land Commenced to be before the the selling the for the to six the expensed to et the part weed the other To the the sportingly him with it fortune Lund It purchate to the present of the who sie from a good Reginal of he stories a who are wor this true and doctors of warning of material the defeature he wants the or lawn. from the thouse of amountable throng It Gullery of getable Polit or it is found in the quintest Luantiff in the Une of them our and which feed on my tall show here I am may windows out only orgular grad liver in the diesery The Andonemarine the house we latile all all in the System is the reference of displacement in the survey



on the the L'hitill a said

by affording a Quantity of this said forms a neutral Polt with the alkali (Tol animale) which is thrown out of the system by the exerctions portionlarly by The acid of Sedative Salt is obtained from Boros It is a chrystallizable lots but has not all the Junger ties of an oxid egy it does not reolden the vegetable Blues . With alhalies it forms falt, whath of days tot. lying and dislodges the introns and murratic seids from their alkaline Bons. It muits readily with Colcarious and Ingulacions Forther. act, feely on inflammables and metals and depolies story in water. It is of tained from Borox by decomposition or with the mineral acids by offlying heat, or by distillation. I dative I alt hos a bitter or well or an said taster. Binder the oride already menhound modern ble. mists handoled many others among which is the seid flugor which is extracted from all roccharine plants, more fartien lovely from the Ingar obtained from the Inger bound. Nothing can be added to what How way hor said on this Intestance (vid Wal 2 mp 235) We shall only mention that it is oblamed from Ingar by destillation with the nelnous acid and that its relation to Dime is so Moong Mat it yuilds to no other said have the great use of Lime in referring Ingos. The winds of armie, Antes Mo-Globana and Jungsteinie how of late years

of afterducy a sum the of their secret some a push of the felt with the orthale (for minuted) which is there is good of the System by the carried in the land of by whole The except of a cold and a section is from the server his or charge touthing able had been mid able the party of 1 Mer this of are said explit dues most medition their way attacked. twou Course . With alle less it forms I hall eagle the of summer to ut a hubst aging and distorded the interest and writing the social from their alkalens Bones. Of mother weadely with the lahl delicarren and who allowers it or the act presting all time when much be went me take and defection storety Hun in white the in the lawest from the money by the state of in for a distillation I ledation I all him a talk or and the at the " relat in the oride already mentioned modern that # meto mile have added moreous other among which is their and at the heave which is enterested from pell and chamined in the con line to man parties lovely from the langer of land at from the

hun added to the 6 stalogue of saids to gether with the ouid of will; the fent four belong to the min and hungdown the last to the animal. Before are during this Intget of ouds it will be pro-. I'm to observed that the believated Dr Stahl unagened that them was but one from yeared acid. that Il the orids we find in nothing and but so many diffirent modefication git by the Combination of the substances. We must confep this openion of I'llatels nems well founded and new one disposed tothink roos well on he did It is suffored that the vituolicoud is composed of this purmo genial aid and a beturemous Sultome heme its strong allowation to the fo That the Munotic and is formed by the addition June tallie dulestance, how with strong attraction That the Wilmons and vegetable sinds ove formed by the union of land orgetable melestoners with that homogeneal and hun their attraction to orgitable metistames. The opinion is strongshuit by the irumstance of ouds being changeath into one another. Ho wome now to speak of their apple wation to Medicine and shall first trust generally of them with organd to the effects Which they produce on the onice mal ystern. They have been supposed to a to do howerfull !

him and death to the color long part of heart to be to be to the the send of much the first found be larry the three of and lungdons the last to the aminal. dis Before me drawn for their Party it of a with in the will be from that there were don't our forest yourself a will that emy The present out to be one was the way on a bout the way of the llood with the thing git by the Board him and a the to me with the word word of the phase was of the or that I recens well formated and well or when the - mo the the transfer of the thirty alt I the former you are and and a long to the former of annual willy 1 the ! 40 hat the otherst and in farmed by the additions no on the have do lettered and it when y within tis the mil 9 vits had the Me levere and weget to be see a mi With remove of lone orgitethe metatorises will lund . Ho amo now to afrak of them hoder and shall first timet general

powerfull ostrugents in Hornor hages, topping them by cogulating the blood and thus preventing its issuing from the patient origines of the vefrels. Dr Boerhand ons Von Iwerten am every when full of this doctrienc; but are no know that acids do not produce Whis effects by mering with the blood. of they acted by coaquilating the blood they would prevent its being corred throther mente branches of the pulmonory ortry to be fitted for the purposes of the System. The seids on changed in their nature by the admintion of the fluids subservent to digestion or the gastrie Jucae Bile De They ver furthe oltered by Mis ofremh trois in to the hals so that they cound out in the before mentioned mouner. Their oction then is entirely confuned to the stomurch when they spenated or redations by which one meant thou melutances that allay the motion of the accumul Thinits and moderate the action of the heard and artimis. Neither do they and unmexidately on the Uood or outsetties but in a mondary manner by their wifluence on the nervous Tystem. We comed now to speak of the possbeular a cids ap 2 Thied to medicinal purposes, of these the vitriolic is mot generally used: all the de Herent preparations of this said hopep nearly the same visture. The Elixis of Vitriol is most generally used and is most quatiful on account of its anoma. The networs and Muz motic ocids one reldom used or by their volately they one aft to ivitate the dungs and this produce

angho! male when with the thood of they seted by conque my Hoy yw purpose of the system. The saids on the hich mal the first the said a wind of the control was pd & 1 44 mia there shows the or rechastries by when he some in mon have me testor us that allay the motion of the owner at VIIIn withy dother out municipality & ant throad or out to replace hud in a reconstance The wound man to speak of the privateer this to medicinal principairs of this the in his still is made my though to the obligation of home of home of this series people investig the series Which was formed as mairon of its comound the market one haptic over the own selections and they and aft to win take the dungs

bought. The vigitable ocids have been friquently suployed of the water acid has been exhibited with con = ndinable advantages: in the Counterphotion it should be laken in lange grantities. Destilled ouds one but little employed in mede wires they might however be employed with advantage in Pathineol Bons. Tor water the For Fill and Pine Budd Trafall of which own their virtues to an acid) how been found of nervice in their boss. To there may be added the and distilled from Pine Chips. With then saids a Lantity of oil is combined which nother menores than encourses their virtues. The animal saids how never been used in medicine From what has her raid they opper to be proper in on inflowmentory die their of the System. Dr More mentione gropes being employed with advantage in the Communitation. 2 Alhalin Told

the and longed in made will they might dita Porg andrew in then sone sone, I willed · risce then and dish thed have a Prince of the his : They word word or Come Patrick Come from levery may be with 4. Boste

Of the Alkaline, Salts We now some to treat of alkalies and shall first speak of them in general and then of each in particular. It may be observed of alkalies in general that 1th They unparte a firmy acrid Toste by some called winous 2nd They one very detargent cleaning off infranties from the Shine 3rd They hangs the Bute syrup of violets or any other Und vigetable infunor to a green 6 olor 4th they effervisce with saids if not deferred of their fixed oir 5th They unite with Sulphur forming Depor Sulpha vis and with oils forming Joap. Alkaline Salts and divided in to Fixed and Volatile. The Fixed are subdivided in Fossil and Lightable. Hoful Alhali This is a mative Intolance form of from in some of the Eastern parts of the world particularly in Egyptor If is welled by Plany notorem and is spotten of by Solomon under the name of metric. It is oftend found combined with the minatic and forming common solt or with An ocid of Borox forming Borox. It is rometimes found combined with the velocalic acid for ming Glanders rolt from which it may be repented by deflagnation with Charcoal. It may be obtoning mon com mon Polt: It was first procured by the Egyption, from the leaplant called Kali from whenew it gets its named. It was for a long time : underlungmished from the vigetable alhali; but

CHAIN CARRENCESTES CORES 6 914 ont into the durun old. wilas Jay torte

Illate authors how agreed in pronouncing a differ on w between them. The French and Spancards ofte the & grestitions promered it from some plants grow ing on the mediterraneon lead Shord. It is also Satained in Great Britain from alle almost all the plants that grow on the See Shone. Some blants producing it grow about to apo Henlopen in the Delawan State. This solt it exposed to a great digree of heat rus in Junes which again comente on the odingson Bold. The proparties of the Hofiel Alkali are news ymmilas to thow of the vegetable to be spoken of muce o deately, but they differ in Como respects. The Fofil al holi Søystalliges like o mentmel Tolt. It does not like the ergetable alkali grow moist in the air, but no ther ports with some of its moisture in a dry oil by which means its Chystal, low this transporming bround or it were wealy and fall into a fine howder. It forms whenire defferent Sutval Talto (inde Syllabus) It joins with Reids Pils Inflammelles ou die tures its Quantity depolves it. Vigetable Alkalı The torte of this is more a mid and Freny though Topil aboli. It is only stained from uge buble Juli: Manus by means of busing them. It may be des lamed from touter by colorating it in clow refuli, to may also be obtained from with by calesing deflat quating it with Charcoal. The vigetable Inlie

belable Hume SA MITTER THE THE PART OF THE to h y mes I they that go on on the dear others of our should my it your about that when the fact we that with od sho if expressed in a great degree of human the season was a In am this w by dark they shape in down in place to the Expel at to the year leter a manufact forthe . It does must be the van e stituti in a chart year in our him our hand had a plud to the works, come of the mases there in a clary ont 1 prolati 1 made and in a sure of some for an army dies Borner lehemme de Han and Sheatial I alte # they ! 1 how

Some from which this alkali is oblamed is of 2 hinds 12 Pige beble Suldanne in their malunel State and germented vigetable Intertonen or Atroit of Fortor Tostor produces the hereit hund It's most advantageoutly obtained from ord wood while they are govern for when any they low some of their frinciples by the melemency of the weather. The Wood should be burnt to other inst in an spen fine entirely but some what confund or in an evore Dot. The asked them when are used in making Took and in theoching Joak makers mah a lay a asher which they hort un till it is Among enought has an egg and Men add the oil or fot which westitutes work. In water should be cold when added to the asher that it may not definite the wit vibrolated tarter contained in them. This sollmay be made eligantly white by hurning and then utting a container by that which has the liver recens in it one putting ono and of a bag in one and the other and in the other Boutoines to well answer the end of a lifter Typhow during evaporation & arraying the pures parts from the less vium. It is undered more scrid by hurning. Journal with all saids they with with efferoseened and the alhali be de a purved of its besed six and when so they unite with. effermence. For the Sentual Palts formed by this Combination Countle the Lyllabour ode bing an and to on alhali a neutriel Polbis

the second section in the state of the second section is the second section of the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the second section in the second section is the second section in the section is the section phon other Lore wester they are govern for where our series los many of the d. Th the lighter mechanisms of the month of the wan glib io and for home what with fine at or in our work lalt of I want all there is here one much in much in l lose and in Clear hing took washer make I buy to 3 /m explicable they have me to the is in showing many to mitre u as on egg and then add the oil or first which the I The wanter show hat he cold then & thesi folded to the asker that it many mat defeated the will marilated textor contained in them. The before he made also and the transmission will them withing I in iau ton an " which buttered our sing in one and the other and in 1 & and amount the and of a style

formed and on unstance of ungle election ottometron whishlace or the acid hos a gonater allmention for the alkalithan the fixed six or the airial said hor for either, a decomposition cursues and the latter estapes from the alkali with wheelist is course bined. This is proved by weighing the Inlatance before and after mention and we shall find thus weight cound enably deminshed. Holf an Ounce of the rolt of laston by the addition of the veterolic out will lose zij in weight. If I port of Luchlime he ad = ded to 3 parts of this abali the lime becomes muld It writes with all the corths underring noused of theme fundle They It writes with oils forming took and with them more vadely Shemanstie: with helphons. forming Wepor Sulphunis . Annites with shirt of wine Show courtie. They write with metals promoting this funion and By means them of all carthe may be intrified. It depoliers concretions and It depolies had and antimony in their metallie state. It sho depolver mucus and hence it is useful in mode noting the too great Deemtion and exemition of this glind in a gonowhood. Gold may be made to depoler in water by means of the Hepor Inffluence. Hence Heal welnow that Moses employed it in his prosep on the golden balt. The Courticity of this soltonises from to being definited of its feared is which donly affroximates

lud a without the freed air or true assent sord H fot word" the section of the order of the market of the second This is knowed by weeghing the Inditioned attend and after inviting and me shall found this n oler o considered the characteristica, the offer him with This 1 M. Fri is law town by the addition of the million all the acid love of in winight of sport of hundlend be ada , we its frank with all the coother made was prougated of there and hd to I then it will not be so forming hat is made of them of the or fold a Wigner Lulphines . Franchis with alwais by mte wite They was math me tole promotion of the けりする all another many her go bor du ad and automorpy in their included estate. It sho un alin Lacron who amount his to come

to particles and then muders it courtie. Calcunation will do this or the addition of any Introduce deferend of its fixed in a Quelline de. This alkali in the round with for och which is made in great huantities the manner of corrying on the Browt is well known . It deposts when in an equal quantity of water and Two much an attraction to it what it delignesses in the oir and former oleum Torlain har deleguienne This lott wonoder animal and vigetable rule : Hours. Frion its allowetion to only Inlistances and may ne its und in blooking. It is extreanly unful in bleacher Rahing Jelmes From the eyes or it is found to comode and destroy morganic roomer than organice Inlestances. Gold and Inter Law may be prevented from bring entirity weeless when they are old and defoud by this if it is in a court i State for it depolies the Sill which is an amount withtann and leaves the Gold or Delver behand. When in is meld state it is unful in leaving sorted Gold and Mover Law. Of the Volatile Alkali

The second of th The. palin. The state of the s Syrup The spice and some types of typeson's framen in in in it am attending to the species of the designation of the six on the maron and were the de to present the second med & This of sold whomoder convenient and mystately inte of the atile ! in this on the william the or by the the termination of the terminatio alio with + Thew rolts am early decomposed by either of the fexis wited altralies. It has but a slender attraction for Earthy Sut. & m def fold and I who have hard and to former that from the Monro of entirely weelf when they and and defected of the u to we the second of th to lar de Laing hit is on summer and determ and have fort or Februar link winds William in mer Ed. atout to so of L. land afield in dearing soiled gold and heart hard. Pu from Of the Polatile Alkali

The volatile alhali propers all the properties of all other shales with mgard to its motion to acids and in turning the lyout of violets green: but the effects gheat and meeting on it am different. It is more volatile and possifies ma acrimancy . By heat it is converted into vapor which being exposed to cold concretes and gives us what is called volatile Palty. It is more awid Man the other alhalis and also deffers from their in having its wapon for Jonet blow its fromt of flurdity where as they count be soverted into vafor. When combined with the seided forms defferent neutral Solts (vid: Syll.) The netrons humonian explodes with a exterior degree of heat. It unites with most duflammables with helpher it forms Hopor Sulphunis. It madely combines with efuntial oils forming Ease de Luce. With expressed vils ibsome I coand hind Joap. Mint of wome prescritates this I alt from water by a ringle elective attraction. It unites with reveral of the metal in this colained state and precipitates bopper from seids uniting with it forming butour ammonracum ga blubbolos It modely defrolves in water and forms chrystals genera -From the State. It does not out so power fully on an inval and vigetable or botonices es the other other leans it is so volatile, which prevents its being confined for a inspicient time. It may be promised from animal to

Eastly Put

They columber their the 7 9.4 I have no destitute a literation of the things for the of the date of Thates with regard to it in lotion to a wide and in himsings u ter lo The think of my for the man for your to finish of u mara Manifest Fred Strong women in his species of the where my the first is the warmented in the resplans interest to the first - lung I Was sold were the same of th ; some platite to the more more and the stay allowed derec I who differ from it is therein it for the party on the " tile . and the many of the same of the same of the same m. wiley di ung t the same of the first said of the same was the said of " ret can explored in moth in within the general of the service of mulau House of for warry for the way among for given after la de for Ser Gelevanies & Generalla to agrantinate and a special sold ! I to some du Lenner Will explored only it for the monng un of . Th The state of the s my y mil et mon water by a my les challed attendant though from Has

Inlistances by putuafaction gant in hit is the form , don't and is found in quantities in Itables omong the Jung. It may be mulled in Stables where dung is turned ut after laying some time. How Phymerons how ne commended their patients laboring under desorders of the Sungo &. to make use of the odor aving therefrom and some advantages from the Bustons: but if they had windered that the vertues of the dung defunded on the volatile alkali it contamed they might have chosen a mon elegant and agreeble method of Method of five during the same effect. If the vetriolic nitrous or muriatic acids be exposed to this vapor neutral aux monia cal Solts will be formed. It may also be 66land from an mal chilolances by distillation. It is of no counquemen what fasts of the animal one made me of. The Bones Hoofs and Horns de. an most gene = wolly mely ceted to this proces. Thus the dot extracted from Hartshorn is most common and is called Ialt It artihorn to. Maturalists have long disputed with regard to some har timber Inbotances whether they be longed to the vegetable or animal hung down. There try has here slepped in and untied the # Knot. The only fund britision to judge by is the product they yield when only ested to distillation. Animal heldances whom distillation always give out a

" stile & 31 John nistr unger I may be mobiled in which we will see him you to firm 7 is de ingo be. to make and of the odos aring there from in 1 the w cadicantages from the bustains but if they had 4 to fee etile obertie . Charle is in the mintered they maybed have absorber freely ball of hall and agence the first of the of the he would see the same and the standard with the same and prompted 1 of the Do the aniete he experied to their respect we side of know a conference of the same of th a from our and deficience by distillation. Of is of is great 2 win m- - mi JE vy & the weed o around the mine of any of the mine Da will lon to free halh W. Q whin

obstile obhali and vigetables a fixed But the volate tile other is most unever welly oblained by the hemists for the herpons of ort from Sol ammon. this is decomposed by adding fixed alkale or cal = 1 wrows carth or metals: when a mild fexed al heli is used, mo obtain in volatile obbieli 3 or even 3 of the weight of the Sal ammone are this is owing to the fered schoolies unparting its fixed oir to the voletile akali. Du Hamel and Macques amount: ad for this marease of weight by suffroring that fart of the fixed alkali being volatilized, but this we now know is not the case. If we use unslack'd lime or how in its mild state the product of volable alkali in still greater and more remarkable, if 3 Pounds of Time in this state is added to a front to go dolow : mon. no obtain on equal quantity of voletile Tolt viz toj. If we add hucklime for hime deprived of its fixed oil) no meh much hable effects on observed. It then vives courte in a fluid form runos hally cours: the and in this case not mond than & to of volat:= = solt will be obtained from the of sol ammon. The volatile solt in this 6 ountry or that which somes from England is oblained from by means of thath hence its beautiful white bolor. We have now fund the course dend took of on particular alkalics and shall be for me dishings

the the said the said the said the said the said works A Julyer without is about surrous toolby stelpened by the " line I would have first four from the wind of bodied 6 is in decree-point by adding fined while or ed i shall a de heard toleran a motion electron or others were all in the ed, and the last in mortal to a County of the ature , bust for or establish in fronting the first out to the =1 hoper foliate the collection of the March and Michael and and , how o their present of very to by mylporus to that What at of the prices attracti being whatilized but this in al fits o in was in wat the easily of me was now were the lease of war # Juliu itime the state the product of whole he alkale is no ghe s the greater and removed your artistic in a Pround of month fine were in this elite is added to me posset the of the own insolven on equal quantity of volution Jen a this the ged i in the state were coldined for lines deferred of head in) we wish pumerhoote effects on observed it the ged is visio recipioni in a fluid former reamontes ley come to Jun Jones

the Intyerd make much some few reflections whom there were stances in general and then allered to thus application to midenne. We shall make the same observation on alkaling or we ded before on acids in our former Lection, viny that it in probable that there is but our primogenial alkali in nothing and short different hinds are owing to the oulunation of this primative one with various Sulf - towns for example the Johil alkali it is notional to whom owes its he enlier properties to its bring comp bind with some bulummons substances the orgital the to its numer with vigetable substances and that the dulinguishing beanoctes whis of the volatile ollow may be accounted for from its combination with mue fine matters writaring the As. What wer = form. this notion is that they have been actually hanged into each other eng The fixed alkeli hos hein hanged into the volatile. Thus by welleting the funci produced by the deflaquation of wither and Hepar Sulphurus They will be found to contain volatile alkali. Menole ted tartor if digested in Mu: not of wind well be found to be converted into strolie ammon. The fixed alhali being converted into a volable and probably from attracting the Immuhle of inflammability. We now some to their opplication to medecine. They have him long supposed to have how howerful reptice and

1 how handle to play another or friendly or with the same to have a links in your make and them welled to their applicable in 1 tim ha educine. To shall much the owner when on allow trong or the lepton on sinds in our former the think my that similar that there is being our forming percel although : whent witness and shoot different hands are owner to this i fy mi the system for many of the plant of the standard of the s when I ame it he we harper the to the harpy in 4 why to f it in to it were most up their anticome un and the dolate dentemperatury theavent with yeth wallet & all be with a the wind and the wind to be a server for their line mather withing the of Milation for wally his notion is that they have been autisedly the lower being and with some filler and the fearth added that he was for attu suged into the world to her there by wellesting the m the co hand by the deflingention of miles and nl hart

Huchow supports this opinion and thin he they produced apulmfaction in the blood he meleter romo como in with buttimbe they acted in this manner. Pring to on the outrony afrests that they are autinpties, unt here we set must remark that it does not follow that because they are autophic out of the body that they are equally so in it. They may from their strong stumbus on the filmes in the system produce a depolard tate of the Blood. murlow to hubufaction which might her haps be month properly termed dyrerand. They have also gained good bredit in avering colour loves complaints especially if rend bied a letter constrie: but her if they do defrolus the bolanti in the Kedneys and bladder it cannot be from their hunreal action or they would not exert formally or in their natural state in the blood, in the someth they must neufrorely be neutrelized from the saidfrevailing there or even of Mis was not the cord May would not hap the extreamly sent who hacteals which contract upon any sivid but stance coming in boutest with there in this ne tunal state or if this was populle they must be much affused in the blood ross to become entirely mild & and incapable of exerting any effects. I do not dang that al enloves complaints have been mered by them His probable they may out first by medicing thousing the state of the Midneys and rendering the Unind a Dol: unt of the Colemai, when lette particles of Gravel or lond our discharged during their un it appeared

from I direction in which to fire from one him his thing produces Amberton in the high the milet good of the the they so that is their is worse it. without afout that they are auticapties but have I Liete int francest that it don't med follow that because I the he my figure to be the plant then to the form of the first way totay may from their about granic line on the felicing he tho the system function is a styleshood what of the 18 loos of alor to per lunger tron which merght being to be 1 19 the speely timed dyresoned they have also pound find 1 Jung the expect in surring when how and spen to expense in the und a little woundlie but land if they do definition the Vi thurs plants in the Kadweys and bladder it commot be " flow as molf in church setion or they would not enter to time to in or in their making a police in the bloody un The duovale and they minet incentionedly be accordingly the the said former long there or every if this work it runos was they was led and had been for substance by sear H blans laiteals which continued when my significant di dola B if the The OVO

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howing to this bermmistance. 2nd by rundering the Redneys and Bladder immable to the Humber of the bolulus will existing. Do Hunter und to tell us in his Lictures Mat a stone was found in the Bladder What very herror for the suffered wind of whom mos Ithhen had received 5000 Juineas, and Da Hoen ne = marks that I tomes have been forguently found in herrons The had unagened themselves perfeitly evered 3rd perhaps the good effects of alhalies is owing in these comes to their outs plying the defict of alkali in the animal juices and de -Inoying the orgatable acid existing there. In support of this it is observed that more persons offlicted with Baluslous complaints who live on annual thrown vigetatite the annual food, and them am a greater number of har tints in the Infermory of Edinburg laboring under this desorder Man in any other hard of great Britain and it is murarhed that they in general come from the Highlands of Ocotland when the Inhabitants lives smost solely on vigatable food. They have also been used or Andorefies but they act only or neutral Solts being neutrolized by the seid in the Homach. But if them is not a sufficient quantity of of said in the stomach to rature to Mun her futty, they will provo hoting and demulating and should Munford never he und in this ruter tron. There is an unstance of the effects of horson being obveated by the alhali mentioned by My Jupiew in the memoirs

amound to their Bureau matage with I and or hedorefied had they art only ornered long newtrologed by the secied in the House when girly of growing diverself in a good in wife to be decing within stainmonth to ration other Many on they they fell prome heating and seemed where out of the antered never be raid in the their with the Eron. There's wittown of the effect of formson being clouded in alleader mentioned by My public in the in

Athe Royal Desderny of hences, at Mudent of medicine had by gothering plants for the improvement of his knowledge in Botany unluchily been poisoned, but by the frequent and slunhful un of the volatile olhali the had bonniquen a which would otherwise have followed were obviound and he lived. In this wow it acted or a thumbout on the wovours nystem. In a Mat time the volute olh. hos bur much und in France in all hestelential feres Shich attack and proplere their effects uddenly. This Moves the obs varalogy between poisons and the monmotor producing butwid knowders. Sentral or bompound Salts

Royal decoloury of humany of the court of middle fallening blace to for the inferrement of his land of a Botany virile thily been powered, but by the preparent Ed plantified une of the volatile alkale ofter had borregued liar, ed Murrole have followed were climated turn was been live their wow it acted on a thing land on the 208 M explain. Turn that turn the wolast och, has min bool 6 the served was to some as in all hardeller that house it attack and proper this expect unddendy. hour Eller on the sea would be but housens and the 7 8 100 A. Who

Neutral or Compound Lets

Then are formed by the combination of two muchle letter of deids and Alkalics and they suffer propels the pouliar properties of weither after combination but form otestime greed and hence an colled neutral. The batalogue of them has been very large owing to the various Typaonina given them by authors which have been upposed by the ignorant to be distinct spices. Their Number ber is limited. A neutral halt cannot be produced by the meature fan acid and an acid or an alholis with an alkali mornover they are neutral in not state of combination except that of saule rature of tion. When a new tral Polt is formed the acid and alhali are respectively raturated, this is called the point of raturation and is extreamly hand ourents by to determend. I'm deminition or ceasing of ef Jeronsence has been generally thought a test but it is not a certain and becomes the particles one frequently beyond the Mhen of each others attraction. agitation will in some measure obveate this more venicens but the vefels we which new tool selts are made annot always be egetated for Ithe alkali is in a count ti state or depreved of fexed our on which this efferves and depends it will ward long before Taturation Toste is a better 6 neterior and will help us a good had but this is not sufficient or tastes num into and Hend with each other like whoder in Colors and pointing

Meeting or Espirition well the w tho had any formed by the materialism of his marker etun the eng. Elicides and Allealier and May mappeared from the suid + when he for the similar of in which the same being the same has been the paper Exterior grad and have one willed mentioned. The best of muel light of them has been very long or the the versain of wate province give they by another with have here hall supported by the year and to be defeated places the Wind W. 7 in in Comitmed. Be weintered halt courses the property of = thou after millione of any ment and an excist on an allet I I'm with an obtail more over they are in ended in not mr 4 take of combine wo has thut of much ratura Il atual the war a new brail last in formand the and and and 1 jug for that an expectively rations ted, this is selled the the a my 2 found of intermediate and is externally deared accounted the the determined the downwhere or exceptly of the 4, 17 Ray ! former of the hand of the marky the set had been the 1-4 wa will a extern on a hagain a the part of our property of 1 am l agined the sphere of energy others attended the last but the repells no estuite were level and to am would among to charage be up to take for I the collecte is in a confet a state or deferred of freed on when the interest me differente it will want long before dating tion este in in latter to material and and will half in a good and unthe each other who we hopens and heiding

The best weethod of Mun appears to be this viz. depping a fine of paper tinged with the Typup of violets into the mixture if it is changed and or Green it is man that An said or the alhali provoils. It is necessary that the paper should not be descolored in the least to home the mexture routinoted of is not necessary to be so accorate in all ralts. In Whon made with the vo = latile alhali, if this privails it will room fly offin me vapor. The areds will throwise sperate in Arystal ligation of the Tolt. They our also often founded in this manner naturally and an not always ortificial Sentual solts differ from acide or alkalies in the fold lowing pointiculars 1thy populs but letter are mony 2000 they have but a clinder attraction for uflammables 3rd 72my act hut feetly on metals? 4th They have a very weak attraction for water and refler water to evaporate from them. The Compound Tolk am limited to 18, 16 of which are not down in or table (vid. Tyllab.) Some have supposed that the orid and alhali loss this original properties by bring combined with each other. But this is not the bord or when dissureted they orgain all this

hed weather if their appears to be his my deffing or in a Shaper product the offered to the specific in the year I fint wentermin if it is changed and or spread it is wherein the uton in acid or the other har weekend is merighing thist uber the paper show the not be designed in the haste full polic the musclem sortunotied off is not meethory to be so ! pyra warmed in all rathe on their wards and the the way The thirty of this private street was the fill may · sport poper. The social mill the mission and a state of the first on ac forther of the work who we are given from the with the this u t.4 /c manner no lingly and on not clary or liferent 1 its 2 Hentwol 20 lts differ for on a cide or a discharge in the year of try of Couring from the series of the property for the state of facing the here. war y 200 they land but a chiedar attraction for the s hy. I Virunally on made of his feeling on well the t pulst the order have a wind which against got magained the the affer notes to eraphore to prom them. The borrepare in it some time to 18. 16 of which our is a down in

Of the Compound or Neutral Salts The particular neutral Solts next demand our attention of Mess we sholl find speak of Glabers Solt flawbers Salt is composed of the Jofiel alkali and iterolic acid. The figures of its chargetals and hereage. mal pyramedal with two obtust angles. Bunders goes spontaneous celunation when exposed to the ow on account of its lettle attraction for montune and this news to be the best test of its goodness. It is further known by a littles desagreable toste. By hat its water is defrepated and it undergoes a watery funow Its charys tale contains half of water in them. It me ffers no change from ocids and Shohis. It has no remarkable affects repor ear a thy melstones. I a dolution of Glantiers dalt in water be added to a solution of calcarious earth in the networs said a double elective et = traction takes place. The networks acid unites ist the fofil alkali of the Glander rolt forming en bie nitre while the vetriolie acid senital with the coleanions corth and forms releniter. Of the Inflammable melestances it acts cheefly on Charcool . If it is deflagnated with this me = when of inflammability and forms with the friend;

office francisco or region of the The finition has newtral dollar next desirand one attention of these was also the first of sich of falores of flavebers Jale ... in whomed & the folial organist mid interiolic sied. The figures of the days late and hereafted I would the way out the way any her want of her in act goes of contaminate a lume tion when experied to the out up we are as and gite alle alle attentions principles. It is paid this remain to be the the best to I goodings . It our o futher herein by a letter disapreally took they mi head its marter is defreshed and its wender give a oud and how and how they are wound hoped within . It is there we charged provide excision a thaties to has no mean a habite agle it a down on ib ia water be ended the a cole hour of action onted and the in the metrons would a done bed and in the tran

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His uniting with the fixed alkali forms hepor held Murio which may be decomposed by any said the wigitable is generally used - this is offerwards to be defupated by head and the Johil alkali obs toined fund. Beaume tells us he decomposed Glawbers Solt by a strongly consentrated This acts only from the for it routeins. It does not set upon me tols me their matural state but preceptates some of them from their dolvents by means so double existive otherstion, The vetriot sid unites with the metal and the obseli with the out in which it was defeatived. It has but little or tron on ancural or vegetable milistances It disolves madely in water and provided it he heat! ed it can be depolved in and equal quantity of & When the water grows cold this solt will be deposited in beautiful transparent & hoystoll the transparency of Musi chay, told depends on the water they writain. longin. It is generally an artificial milistance tho rometimes found in a native state in plantion da brich walls and in some meneral votes It was formerly obtained by decompounding borns mond solt by the ortholic acid this was the me thod used by Glanker from whom this Solt de = mored its named. It may also be obtained by observed Thomas

his marting math the fixed achers for having upping any be decoupled at by any of a sugstated is going madly such the is often in the to be defenfrated by beach and the popular what is nety Combine doubt by a strangly somewhat the ge in act only from the open some of fine itali an the soften were tother me their markened some of the weighted som of them from their policies of the Glave mound of doingle alection attendation, The setund it auction and the mother and the ordered from 4 fave be and in which it was definitived although the 1 my ac Cartism on ancumal, or orgestelle santi. There well , lasthe who has made by in mothy and propriate for the first the state of the 1 ams than is A He the waster govern which which wall the # mate posited in beautiful locaroparent of language t. rolut Even extraction of there days to be dispendence I 1 Jupon waster they can

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poring Ist Rufullins or Borax by means of the Vilveole oud. At fremot it is generally produced by mexing the pur vetriolic acid with the puro Jopil alhali obtains ed from Kelp. This method was first racommended by a lovety in Londow. Vitrolated Tartar is wonfond of the volumble and end the gerad vegetable alkali or talt of Tartar. Its hongstale om four rided columns which go off at night angles and end in pyrameds It wontains less water Man Glanchers solt of course is lefo transpormed its does not undergo a watery funou and the effects of hat are not remarkable on it. It is not changed by any said or alkalier. It has no considerable action on earthy Bodies. It has the same allowetion for uflammable metatancer or Glanciers Polts, neither has it very action on melallic Iulstances in this notunal state . If vitivolated tartar be added to a robution of solvering the nelvous acid it is decomposed and a double election allusation total blaw. The vetwol. aid leaves the alhali and units with the selver and the orgetable alkali former with the of nitrous acid. Mitne. Itahl Anggled the Ehem No of Germany by hnoponing to Mun or a two blam, the decomposition of velocolo ted Carton in the halm of the Chand, the me thod he und work the one just mentioned. Vetwolated tester is very between the solution in water, it requeres 16 times its weight of heated water to defolie it and it has

otty sensed my attacks altered in lath of Ten with 1 Tabl teid with the their and the orgetable which with the the emp and trains or and Million who he had the the notes as withe halin of the Crand the one the d Petro by one of wind visual to one of the Milande tid the time trive orth affermate of solution in mater, it riges any get of husted water to defeated it and it

no oction on aurmal or vigetable intestances. Origin. It is sometimes found in a mative state in the juices of plants and vegetables alkali as Pot ash has guenally rand portion of it adhering to it. But it is mostly an artificial substance and is obtained 4 ways ving. 1 thy adding the oud and alkali in their wheneth states unmixed. I molly adding the said in orperate to the alkali in a compound state. 3 mg By adding the acid in a compound state to the al holi in a repenate tote. 4th By making un of the vitivolie a ind and vegetable alkali hoth in their compound states. The just and four the of there me. thooks one deldom employed or they and aspension and twomblesome. The 2nd and 300 methods are gen, wally word in forming this salt.

Table of the formation of Mitniolated Yortor Vegetalde Alholi 1t Nitrobe and. Neutrals of Veg. Alhalit 2nd Rtmolic oud Soup of vig alkale Alep. 4 vis of vig. alks 30 Vitivolie ammoniae Vigetalle alha li Vitriols and for the or Julphun -= Neutrals of org. Alhari 4th Nitwolie amman. Borth combined with or Vituriolo Nitre Julphur - -Vitriolie ammoriae

du a and in of Lland and wege the lets a collect on the wife hul mally rams from gid adding the of the si ways beg. I they arelating they and similar and a great agree . with the bearing and it "If i and should die in a good in Um italians the second in a compressed with and the second find the second second to the Ole inid and ingo take alled hath + Where bound states The food and four the fillering wind flow h , and ? Il an when the best to be and the second lew on much in forming this last roter gitat Potenske Alend y an When she soud 4 Me

WIND ntwo

Atrolic ammoniac. Is composed of the velmolic and and volatile alkeli. It popels a henetwo ting hung quit taste and mell and vines unchanged in the vecing ver when beat is applied. It is not decomposed or acted only any and but the fofil or vegetable alkali de = compose it. It has lettle or no action on the earths in their simple state, neither can Bhorcoal de composit it or I will not bear heat it quickly avaporates. It outs who and worroom or depolves all Mon metals all this that the vitorolie ouid outs uponin a repenote state. It defwhen Ilver, I now Zind lead and time and when added to bopper clevates it in the necess; here it was called by Glow her the Bogle Polt. The velmolie ocid he named the talous with which it seized upon the mitals and the volat all. the wings with which it flow over into the necesser. It depolves madily in water and knoduces wold. If this solution stones it vigetates and efflorisces. Origin. It is never produced by nature but is al = way, an artificial Intotan in and obtained by the 4 Me Woods What and made use of to oftain vite trol. tortar mutatis mentandis. Entic Mitre This neutral rolt is not properly www. whole on Mhourhoidale. It is formed of the nituous oud and Johil alkali. Its fundality and tolubility is mearly the same out the comment with to be shower of nevel. It is aldone found notural. In buymie it is formed united with the fofil allow . We support

a literation of the well the contract of the well and wolater altration of popular or franch ent tarte and mall and mice unchanged gradient freed is applicated. It is not descount or no list of that for boy any , with linds the fafeil or organiable alles is the series the you the of has bettle or no or tron on the entitle in histor mingle state, newther can bloorcoal deconforms www The next least to with it questing anaparates. The extremely this n and corrected or of holine all Heron ametald all them the lefter a situation or ind on the enforming or respected theter. It has a ay be the observe now I am I had and the and who well & apper otherwise is in the measures; dury is it was walled ding y flow bey the Engle Solt. The webmake out he a tolartalons unthe which its seeged upon the hitwor whater and the volat alle. The wrings is the which Spil bless outer unto the meaning, it depoles madelle netre where on she formed we would be to their extended o Chal rigitation and efflorisases. المسال of produced by material but is al ways on with freigh bestern in and obtained by many of found, 4 M. Made that and made wer of to other of ome nm but the Contar mentation mentainers. whie Mitre This wenter harby of and intelled it & hyptale one Whomber itel . It is for .Ot: the withour said and population to form belo and and to but he is morely the same I am the some dina The to be shaken of ward. 2200 ritai utels

whice netwe is formed in the earth naturally. It is found native in a hund of earth in birgine. The orid him in its descent must have med with no betumenous moto to. Bythe Mitrous oud generated on the my four of the existe by pretrafaction attracting betimemous mot to it is converted into a kind withinfile and in its decent meeting with fopil alhali it forms mitted Joulie netwe Eglanless Tott. Then on 4 methods or arliferally oblaming this or in the foregoing It may be obtained by a proven without distillation by adding the Common Polt to the surrar Courties In this a double election oftweethour tokes place and the network oud in the dumor Court is surges on the Fofiel alhali and is thrystallized forming bus hi netur. To a solution of Glant. Solt in water add bhalk depolved in the nitrous said and a he = anités will be por aprêtated while a bubec untre is formed. In its properties it brane greaterembland to common netne. Common Metre is a composition of nitrous vid and fixed vegetable alhali. Its chrystals and white and of an irregular figure of 6 lides or Hoxago = 1 mal. It is supposed to be most frem when it is most hum and polished in its appearance. It welt in a moderate degree of heat than that of med heat. It funion does not depend on the Edantity of water of it contains but whom the same principles or that of metals. It is decomposed by no alkali and by

frent! por december making and the gopie adhabi it er nicher hoped whom I will ? There many be statement by a property weathered distribution withour pred in the element to seem the free or to dy The alkali and is whigh bulleyed for each " Halley when i we a total hours of gelands I get in water to wer a Elelh defound in the mitroria said and a de a ed hat. iles solf the fore who taked which a low love meters is " longly d. Suite proof when it worse great means bland my that and found ongette the others . The charitains with the count of an inequation for general to helder or to make you a sold in supplement to be ministed at boundary in the water and polished in its approximations 3 to hor The thought want the kind for the thouse of water the wall a other firewar does not dispers to out the within the contains but when the same plant or unitals. It is decomposed by most been and

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no said except the vitirolic. It has been employed to fun Earthe but we suppose Mat in this process the acid is and tinly dishipated and that it acts rolly by its alhali. The his Banacteration of netwe is its strong attraction to all whiteness contouring the powerful of inflammabile By when I bloud in contact with there in on inflamed tate it occasions a spullwing hind of noise Colled deflaquation with a white flame. When sulfihur & with an deflaquated together and offerwards washed they form the Isl. polychrestien. This is a vitriolated tartor wendered with Hepor melphinis. I al primel le is nitur deflaquated with a moll quantity of hely Thur to defentate its impressions. But solution and drystallization will answer better for this. But No to never outs whom in glam mable hodies till one or lotte an ord hot. This depends either upon the acid adhering w strongly to its alkaline havis as not to be represented except in a vid heat or from the forma to not actiff well med hot. We tue serves to show us the presencest of Mogiston and is the Bois of all fulmenating over = Hooling wompositions and is the chief ungerdeent Mot enters in to the womposition of gumpowder. The mountion of Jumpowder may strictly sheahing he mid to have made more noise in the world than any other Indoon w whatever; and the it may ax ate beneralle whom yet whom the whole in its effects it hos here herefred to man hand. Seince the unity Ithis melitanice was how him life frigge than.

by defection and think it outs well by by Laines leverte of wither is the state of a little a Mor on right d or 20 Lorde ntai a the foliphire then y d. The while is to depopole it empressed. But which have as ion of of holl. Il to show to show have and in the Moon of selection of the land of I also with weight to the walls the

than before. In wention of gumpowd or the strong desive no advantage from his strongth and the weak does not uffer from his weakness. Men engaged in the Horrows of Wor an mond whom on equality. The autin used for this hur = for Arould be pour or well or the Julphus, but it is of us consequence whether the charcool he oblamed from hand or roll wood or has been affected. The mouths of good gunforder are 1st Tohmalle unmediately on coming in boutact with five 2 nd To leave very lettle or no never ment. The become depends on the intimate union of the ingradients and their exoit mistrem, the first on the fine portion of Meso ingredients. The best proportion is the following viz. 75 ports of Netre 15 2 of Bhor wal and 92 of melphus. The manner of making it is this the Jongoing ingusticute on put into a wooden anortar and hounded with a wooden pester for Il hours being every now and thened moistened with water to prevent the wo latile parts from or anding and ling despersed in the air. It is ofter herbect hishimation taken out and exposed to the Ray, of the I was and thend becomes Gunfowder. Hover one some times und bor drying de but they ond dang avour. But as it is now extremely fine to has many disadvantages mich or attracting the moiston of the air willing the Ho and and blackening the Fire arms, it is newhory is should under go another operations alled Growing. This is making it has there times the Holes Buthel form the quains of a proper weed, this is

and how they or from his about the and the weed to from the makerefor their augusted in the Horners of the in to mond where on appearing of The nexter would for this him a fill for f I steam to be formed to a well so the sufficiency link while of an expression of the character with the statement of mall of any for more and interpretable many in you are fire in or main and 1 Thundle mountains the receiving tity of me the it will form I'm to those I want to the to A. W. Chand defended on the white with any the Live to and their in out on white with four the start of white of these of my grade and the Think head place to with the my my 75 parts of White 15th of dilune well and of highest. The manner of marketing it is their the 4 popul against in good water one from the water or worden and the and I with or respondent partie for the house being ily un The mineral wasterned and the states about the material beautiful. 1 the is The party from a construe and hand been in the fill the A Whis 8 It is often infect indisonation taken out take and enjoyed women from moved from large with they were they were ting 1 the indication of the mark of the arthur the is and the said hard the stand of the printer in the her for the it is necessary it should under you much the Hold of greening This is making it had the the freshold from the quain of a profess region to

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wel

efferwands eifted again to repenate the durt from it. Glazed powder is made by turning the Glazed in a Rowel insunted on on exis for that purpose for 6 hours this is done to herewest its rolling the hands and is heifly und for fowling, it is not so good or the other hind. The explosion of Mis Intestance depends on the following Ermuntances. The Charmal contains a great hautity officed air which wherethe from its during suffaminable to a rapid and undden Inflammation when in won = tood with an ignited intestories way porticle of the with them is in clow contact with a particle of helphers. (which outs by the & He contains) and with a hostill of Charcoal from when we the effects on shidy and more umarhable. The fixed air of the 6 horcool is unne motely wonverted from its melostic to an elostic total and the explonor is entirely owing to the extrucer ton glin and during inflammation. It is observable that the workings of a gum borrel how a small number to Mat of hepor In Churis, this is owing to the nelphones uniting with the horis of the Tolt betwe forming a true hipar sulphuris. That guipowder them in the herb that has the host of this smelly as it shows that all the melp has has been commended Pulvis Julmenous is formed of Julphur Mitur and Talt of Tartar in the following proportions vy. 3 harts of Inthur 2 of Nitre and 1 of Selt of Torter

1) Eller for its Lu and the on our ares for that purpose for b. hours expected in the country of the former of the property of the selection of te all Comment of their testimens defends on the feller sung begins stanced. The Bliver week contraction as good a por metally of freezed and which is a proper from in pid to about you and the water whether in all today n of the mar and of. " pays " where on to by the of the constant out of the production ma ancored from when we the contract our white and I have markable . The friend sing of the Alwares and is unused 1 mgs by war yested proven its willoute to an elevition total e orly a the capternance is entered mine of the outeres of this are drowing inflamment the t sow lo of exercise the stand of the the The stand of the marketing with the thing of the 2 Door wood to be the form ing a time hipper be of herein. The fore in the second of the seco and blood standard the me the him have here in a former in promotion of the Comment of the 10 do of the state of the spile of the said to the

It deffers from gur powder or the noise is produced with out its being confined. The explorion depends upon the parts hing urbinotely merced and all the porticles to= ling fire together and whom the fixed our contained in the alkaline Bois of the Fortar. Nitue promotes the funion of Ones it only acts by its alhaling Bous; when howdered and mixed with Line and won & exposed to a mit heat it deflaquates with veolince and comin of their brunche of Influence belity. It defwhen madely in water but organises wear of times its wingst frater. Its effects on vigetable substances one no ways rimar hable, but on annual rululanus they are more remarkable, it preserves animal Whatanas and gives them a beautiful and Color. Ingin of Nitre. It was long an opinion that with was entirely a natural substance; but we now know that it is uldow produced by nature. It was formerly roid the now looked whom or bobulous to be formed in beds in the earth in harria India and China. The Ground may be partorated by the Roots of plants and hence some netre may be formed the not in large to dies or round travellers report. It is almost always this production of fermentation and putrifaction of annial and vigetable militances, the it is rounding found in a native state as on lange Rocks hund colled Sal petra, under great Bridges in Volts and wine bellars, among how and round plants, rub

A to the man white a make which Fu. J. Mich down temperation and when the formed our contained tonus on for the person of lives it and is call by at allating them 488 of more desired and manual to make the thereon in the found to a me him to be fought to the section the! of their premisher of Sufferments letter It do wall ! H. 1h in more remorkable, it present amount lupe high of Witness of one they are placed that within and rith a h con then 302 that

. buh de. In totua in the East Indies we one never that it is not found natural or we have the proup described in which it is made in great Lucutities. The Mann = foctories of it and now confined to the East undies or was formarly the east but it is made in various forts of Benope. In Germany occording to brown mar the process is or follows, they just dime Rublish Gorden mould and oshes montened with Umme in a small house with a window opening to the North East. The moron that the window is open to the North cost is not to admit any networks porticles hub brooms the temperature of the our occompanying the wind blowing from this from to more conducion to butter faction and thus to the formation of nature. after the Mofiles remained for some time it is so unfrequent ted with with that this of it will yould zij of withe. The the nitire when their produced is allways wined with common solt. The thing of Prufice and the garman Princes obliged Wheir Intjects to build their fences of Dung Straw and Earth and every 3 years take them down to collects the Netre that may have formed this method is parterularly followed by the King of Iverfra. Han over is entirily with leed from the weepings of a mol town. It Franklin tills me that are Old man and his Wife make or much with or will why the whole Electorate. In Front it is occidentally made by putting Rulbert or Prigate

high was and the the the same and the from the water and and down of down it in which it is made in go was descentible. The obligance the So between the one medical confirmed to the East with the t were of the was property and formed with ulas / facts of Beauty 2. I'm frommy occurreding to Comme him the former of a conferral than he will have and will wat I will among the first the second section as it was been bed as a construction of bhryi excell down o mite a meder of me to the e). of the manging that were done in gland to the the the said for the manner of the said for the " It timpers tim of the ord or conforming the wind the stranger of the second of principle and the second of principle in the faction and thus to the formation of motives lights. when as is di Come and for some of he is no make Mag Bill your of the top the sound the said Mitne The the witer when then produced 1 Tal dot . The thing of Preshing and

ons dung to in water with Line. When the proposed it is very imprired. Common Salt is frequently combined with withe this is repenated by boiling away the water till the Solt forms in hystals and continuing this till the bhoystallezation consis. This depends on a ungular property of common dalt viz. that mond of it will not be held in solution by boiling than in bold water after this the legenories not to wool when the bhoystall of the with shoot or a small quang! ty of common Solt is still depolved with the wither it is depolved a mound time in this mounes and it is were necessary to defeolow it a third time before the salt is nefficiently pure fied. What is contain ed in the liquar that will not chystallize is used he for Magnesson. There is another me thod of obtain ing Metre mentioned by Glancher in this process com more solt is absolutely converted into within. Boundary mon talt fertilizes the earth only by bring wonver ted into niture and home the Ground is not refertile the first or second years on the third become the hund Infaction has not baken place during that time! Inforthe third year. The witre does not float in the six. Limed only serves serves to fachling the boitte evolve netwous solt from pulutying sulstand as this is the only un of Line in moneur when it

tually it in the witter this is represented by tooling or my the will thing ! to the some and district and continued the Oll the Chayola Chyation wares 7th gapened & Bri wit. oflar bleryting of the with along to a mall tomo defectioned a security time of the second of the 766 in minimum to deferred it is the things had Mar attion of the form of fact in contract mutt i lag was ! the forest time in the second of the second none Mound thought her you will be now got and the wall of the former of bally ui, Demont on by seasons server to 批

there is no moved or vegetable matter Line distroys the Louds effectually. The rules the Land or the more vigetable matter it has report it the more will hime fortilize it. Dung and I we mexed together will out where nothing grows have the dung nover instead of vige = Table matter With cannot be manufactored in Guat Britain, it is raid this is owing to the mountains gother air. Metre is often found in a native state in row I flants the in round mond then others. Tohorio untoins it in great Leantities Lence & mon is othin ed from the mechange of lobocco-Houses. On this oc. want bolocco Leaves sportale when thrown into the find. I have been informed that reveral boverns in fi the mentaled farts of Nirginia afford it in great quant thiss. a gentleman informed med that during the late was he had made 4000 founds of Talt Letning from one of Muse Baverns. It is probable Muy may how formerly hun the meeting Huces of Birds of hagrages probably Prycons the dung of which laid the foundations for the production of Mis Palt. The earth in then Bas verus is what is commonly called lime stone land and very much favors the generation of netre. The mettrod this Gen Cleman Jurned was to dig the earth pour water refer it and let it strand for some timed the hognor was afterwards decounted and to it was added the Ly of asher made thoiling to which to much expedited the humaness, the legrons were warmed

the interest or regulated insulting dear a districtly and an actually. The motion this hand so the more was attended in the nather it has report it the most will have for tely udar They and humed need together will not about I lique afterly grown have the during seems instead of my . worder all in atter With comment be many factored in on of of the interior it is assist this is very to the or conting opula the see Mistre is often formed in a water state in the ufact Extent the inverse mand than others. Tobaccoff The in go eat Swan Liter hours former is othis were the meding of later a thouse. In this or the trou I believe dear forthe her thrown into the !! land When he we pour est that me all towns in the mysla and that good of they was affered to be greatly affer 20 By ha the first being in formed in theat during the the was listed made 4000 from do of all the time 1 mation on a of them is among the proposed to they may the trool whomen if her with a winter of there of the formers of acid ally Region the day of which haid the foundation habl Me production of this last 12 earth in their de were in what is issuered by in the things stored hand nd very more the formers the generation of wester. The welling their face there was here was the object the pohe with how water explicitly with and let it attend govern E) the leagues was afterwards decemented and to in added the Light own moder made their hand and the said of the former way to be a start of the said of the sa

boxme te the "

warm and a turbiduefo was produced. This his biduefo around from the Ley Unrowing down sound barth or a Inper= abundance of acid which was united with the nitre This liquor was afterwands harled and the Tolt formet according to Do Stable opinion it is formed from the mion of the primagenial acid with on alkali and some pulous and matter and that it is the product of pitrefaction this sums most probable theory of its formation. Then on 4 Melhods of muching Withe the rand or those used in making butin Nitre. Netrous amonac. is composed of the acitis sid and the Wolatile abali. It is reldom obtained in a chay, talline form when exposed to the air it deliques : us. By head b is converted into wapor. When thrown into the sim it suffers a hand of inflammation and detornation this depends on the to which showings adhered to the volatide alkali. It is decomposed by the vite shi acid or by either of the fixed alkalies. To has none: markable action on the easths. It objectives internates by in Minit of wow. It effects on other uflammas Mes own not very remarkable. Its effects on metal on the same as Mon. of the Vitorole ammunial? It depolves readily in water and has no remarkable action on anumal or vegetable melistances. It is altogether an artificial Industance and them are 4 Mithods of making it or of some of the before mentioned Talts. Common Solt

love the Ley throwing down some Earth on a tention bundones of and which was misted until the wife his Enquer was afterwands harled and the Talk formed !! Tol ? the mark premised in a marke of from the house mission of feller forming going a cid woll our of the der and fell and the bearing menters and think it is the property of trifies wheepsation this seems among throbable throng you plane a trained the end and of the shoots of anathing White the was there and in watering but it still. and Eller out of the water of 1000000 the water of the and the Ablastille attack. It is enlatoner obtained in they to the form when when enfrond to the air it deligned they had to enverented into water ill have the inter gnena The the fire it willers a hand of employmention on the mon? the definition this defends on the openhale always addented where the whole others . It is down hard by the will and the course or by with of the proceed alkalin. Tolders man fill the about I had in our the east the . It defeaters we then it is the in their of our is to oppose on other unformers the and very memarked ble it offer in our record pho s the same on More of the Witeroles amounts dipoters readely in writes and leas no vermontal ou a stion or amended or orgatable in between their alle The on water in al har lotter is and there on it thats functioned by wind of the laster mintered alle Common of the

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Common Salt is a composition of Marine said & the Fofil alhali. Its chrystals are irregular unless obtains I slowly. When thrown into the fire it deerspitates but this property is not beculiar to it for we find it in reverall other ventral solts. It suffers no Chango from fine when pure It may be decomposed by the vitriolic and nitrous oud Hats upon some earths. When How into the fire it glazed? or vitrifies those refuls that and held immediately over it In this manner the Stone ward is Glazed; from this frie buty it is resid in glazing earther ward. It outs upon some and has a strong attraction for other metals. It is quenolly with magners and boltanous Barth and frequently with the vitorolic acid and. Magneria forming Epsom Palts clonely united with women Polta: from the first mentioned substances, it is represented by adding a fixed a thati with which the occas will combined betting fall the Magneria or colorious booth. In order to repenate it from the Eprow Palt wer must add a tolution of Chalk in the nitrous said? when a double election attraction will take place, the vitriolic said leaving the Magnesia to with with the the bhalk forming relients which one precepitated, the vitrous seid unites with the magnesia which is whenotide by shrystallezation. There is another me= Hod of represting the Eprom Talt, by adding to a 20= betion of impurer Talt shong lime water, the vetrol.

The fill of the in a wind from the of the many and the Effe alhali. " to day the one in a guller me for the Lowerly When there into the few is description be the the some in the and and the interior form and the contract the city that wat to prefer the surface and placed from from the way of the there All forme an order of the mother and without the fight to work from the fight to them the expersioned coulder. When the own and the front of glose the the me The transfer that and hill manufactured with the ion th the manner the transmissis glagests from the parties ation with it is would in Jelaying and her would the order upon dury and have a closing a thought on the other matel. The minorthy comband with magnesser and ballowing quero hath and forguently will the vitiliation and count toluo the promise forming toknow latter long months of months of ore for men soldy from the first ween troused and towner , which is informated by adding a front a Chalic with which the set i hera the combined to thing folk the Magnerial or all amount I had the be order to seperate it from the Epocar latter of the some found add a tolestion of Bhalk in the portions and in think with leaving the Magnesin to enter with in the Eliche forming orlants which on presidents to believe and winter with the remignished of showeted by shorptalleys have . There is another and of representing the Chrom lotte by andring to a so

and for water the Magnesia and units with the Line the Magneria and the Selevite compound are porcepied tated. This method is not so good on the former. The line water will cours a turbed approvance rometimes show there is not a particle of vitriolic oud contained the Line solt. Common tolt wontains a grantity of footh which disposes it to deliqueren win the openies this earth is added reperated by adding him water to a volution of common Tolt. It may early be upers to to by chrystallization. We may understand the Fact why salt that has been melted in the find becomes deliques rent Mis it was not so before. It has been supond to be owing to the solt loving fort of its aid but a more probable cause in that the welt loss some of its sid which is defuported by the fine and then there is supero hundouw of alkali left. This always about who mosture. This is the common robution of the greet tion lind Imphose it depends on another cause. The 1 bommon talt however pure contains a quantity of vitriolie seid united to illoguerio in it, when it dot liqueres in this manner o wow of double elective ots westion to his placed by their ling melted together. The vitriolie acid being loosened from the Magneria! the municipality out forms with the magnesia a colf mnortable for deliquereenes. The Tal ammon. fixung may be of lamed in this manner. I do not of At that ourmon lott loses none of its munatic acid when

thid, be at for eater the the gracies and we to with the desire had de They were and the Selection and and for what ylan all This was thood is not go o d on the for we spill the with I winter until come o ander approved and remember thali ! the in and it that is to go well as the in it is the the down I wish to orinner to the constains a given this with which despones it to de leques and in the opening worth is sideled rependent by addaying white is the les o The second of some points the the some of a residence of , ralt ally hey to they are the way wonderstoned the Her white have so the the term we steed in the first bearings Her was the it was not in the forms the how being the · inol to be coming to the soing fort of the oring he , sec The content agent the selection of the s king 1 the which is definition by the print and then there d two unper or him adoction of allered i & Mr. This calls of and t petian ply mantered the is the commencer role than of the girl tout tali I his I suppose it depends on an other wares. The tion and late however prove constant a grandfily of the bis soil wasted to itherpression in the while it of agreement that meanings or come of done the charters between to has file as to this land without to get the ib d Path love now of its manuate asial

willed, but in this constitution it is unperson or when hostily voiled down. Common Talt has but a Hunder attraction formflammables and count be decomposed by deflagran tion with Charcool. The mounes of oblaining the fear ed alhali from common salt is first, to decompose it by pitilling it with the vitivolie or nitrous saids and the deflagnating the salt thus obtained which will be with Glanbers dolt or bulier netwe with Chorcool. Come mon not is defrolued but hastially in species of wind, if this whition he set on find (or a white in of Solt in Brand)? them is a hale blue plane of fines from it, a humanity for verwed thro this flamed is a most duagnoble and twiking spertable or it appears like Mat of a born in had two or three days or in the first stage of hertrefaction few herrous con view this phenomenon without emotion. It has no great oction whom metals in their mup le state, but precupitoites a robution of rabes in the network acid forming bulic nitre and by the murractic acid com During with the Blues Runa Bornead Common Polt is ordaled to ones to homente their fusion but it does this welly by its alkaline basis, the oud is defreshed intimely by the interisty of the Heat. It depoles in 4 times its Quantity greater with this remorkable be unliarity that the water defe when no more of it when heated than when what

tilling it with the water of another or mittered and the mogn gratify the last their ordained which will be alt ton a and the service of the service with method tank son will in defeated but partially inspected in it for the determination for the time of the standard ace a in a practice of the second francis of a second I would there their planners or armost during well whip for the the the or it approve the Mant of a to was time or otherward days or in the family who get him or the while in their mary the state has been presented as belietion of rebree in the networn said however Hist: D'w Hering with the those formers Told in ordered to over the property their ordered philosophie to the state of the day had been a state of the ha hid is defected in timber the internity of the Hree Alt en Made it defeation in a tain the Remarking from and the second of the standard of the second of the second

It action on Negetables is not remarkable but whom anis mal melitamus more so hang in longe quantities out of the sptilbut which is very porticular) in mall quantities proving reptic, Les haps this only takes blace in roled bo dues and is owing to this, It is known that a certain agree of moisture is necessary to the process of putue; fortion and Mat if this moisture is confined in the Inlitance it is convied on with more vapidity; a mall quantity of solt them by only hardening the me face confiner the present the body it is applied to in the more interior parts which consequently prod motor and menases huturfaction: But when a large quantity is applied the Body is equally setted in whom thro its substance, it is hardened in its less = ture and to jucces and defectated thoughly or well rent knolly or externally there for in this was it must g provo autreptic. Nat: Hist: This solt news to be unever rolly differed theo'the breation and what the poet rays of Jupiter may be applied with a lettle variation to this Julis . Hours "hunia blina Dalis" Every host of the Minis verse has a constant tending towards depolution and I news as if its boundful anthor had dustrebuy ted welt every behand to sewent this defrolution. It is found, It In the Bowels of the & arth and is mound in this manner in Poland Hungary und the Bost Indies, it is then welled Rock Tolt

getighted and and getter the contract of the presentions y in and the first that the state of the parties of the titur the way of more of the first of the former of the facilities uld 1 he broughow is a storan with by that him is a fit with the comment of the work of the comment o mores all grantity of sole them by only handening the wirte to profit in the hoop of the part of the policy of the sould be a sould be a second to be a seco the more interes or short which was negative fire ared fr I to had with the the time of the time of the grantly is applied the Mady is expectly acted and the second section with the second section of the second secti th can there can a to preser any of the house of the graph or and their the 1 Ja ely on externably blind from in their word it must hol a With the This sold own is to be uneversally different toits the bound in and what the post ing, of furtill mesto in the application with a till more a tion to this during und there is a land felis " Every front of the the the was har a constant tendency to root of between he start as if it bound for a and har bound the a self every holow to present this defeather it Pole himself of the Moint of the Santh and in I fill id in this manner in Willand the spring tant the the teach during it is the the sale has he

so Sal General. Near bracow Ahow is a stratum of this warmagingly large that it is computed to be sufficient for the nepply of the whole world for 1000 years. The Mines in Hungary are ortourshing and there are with amazing quantities of it in the Island of Comers interated at the mouth Ithe person gulph that the whalestants and necessitated to build their houses of it. 2nd It is found in many frings in various parts of the a and is theme called fountained Solt In the western parts of this bountry When an moning springs abounding with, in Bed ford bounty near ford Pit and in Kentucke. All the solt und at Kentuke is proposed from their springs. 3 "It is found in greatest quant titis in the Boson of the Ocean. Then have been many for dispirition carried on whether the water of the Quan was originally salt or only rundered so by rolling over Rids of Jalt. I must believe that it was originally Journed as it is for were purposes and cannot of and to its agraving its Tallness brown the quantity of his Intestance existing at the list town for if this was the Bow it might be drawn up, but lailors who in following generally greas the Lead to know what ained of Bottom there is never observed a particle of lett adhering to it hut generally rand or mind. It is observed that the I so is most imprognated with last near the Equator or between the tropies this is owing to the heat of the Climates and the constant evaporation of the Just hosts of the was

and one of the compart was hol ingly langer that it is comparation to the wdila the la move ed for the till Beauty Walter Herrymy and orthogodorny and there one me Mis when this y aus m. ames Told of I would be dearly thank to the propose of the second of the its n The same was a surely with a surely with a we z Miles & Marine and Section of the Se An The state of the s pie. idto direc arlifi amo. anaparation of the part of

tes that takes place there. The quantities of Rain and Inow which fall into the Touthern Jeas render the water thing wow delute. Mr Boyle observes that top of Sea water in the Baltie won towned but 36 while the wend Quantity of that under the Equator witains Zij. The specific fromity of solt water to Most of fresh is as y 3 to yo Notwithe standing this much quantilies defference in Mers species po gravity the durity of the Sea water is much greater how shops flood and snemols sween much easier in Tolt water than in fresh. The talburgh of the Decompre! wer this great body of water from huturfaction will. it would otherwise he hable to from the longer quant tity of annual and vegetable rule lances that it con st tains Mr Bergman found that the water of the Decar untained more lalt and was prives below than wear its surface this must be owing # to the buting factive sulistances and the Exercice of animals has ving a matural tendency to orcend and float on the me face. Washing the body with halt water has been found to Janevent Tailors from contracting those her toid diseases that prevailin warm blimates and an arhfreval Bath of Salt water might answer the sams purposes equally well. The dews What foll in thow places near the Orean own rofor from ling Jugudicial that they on even found to prevent desort des. The In habitants of the Island of Drivers elept at nights in their Bolconies and on the hours tops with Mounatie

Late Mill May Es element ship of the grade inches a the same there is the first the same of the same in The same of the sa the of the literal to that found is no past of return that by the of fruit the stains are an artificial difference in the same after bapup Manager and the second ibaci they played and amenals owned mind consumer in edien ata ally But approved the property of the former of the former of the amount and mys to the rand francis that it was the first the facility of the same the same the same the same with and talk and was haven taken the had o eve the discussion of the courses of the constitution of mentional landening to overed and flood on the ment Warding the looks and healt writer has here! w the

out expensencing any had Consignences. We shall have make a diguession which this not cume! diately connected with our premit subject vises from and by no means for eight from the Inence of Bhemistry Herevations on boutugasons Discores I gunpowd as is found powerful in haveverting the spread. ing of putrid diseases, wringmently they are not prevalent, in Capules show this Includance is in questist rend. When in they it out by the Black it gives the air or whether its ingrediente enter into mixture with the futivid mil munta so or to dishoy them I want till most probably this may be partly owing to the Quantity Jahhlogisticated Mir that the Nitre contains and which is extricated by its explosion. During the Mor Upon the 20th a white belonging to admind Howhis fleet had most of the men ill of a putmid fever due! dying every day in Atri intration they met with ofmuch man of War with which they had on bu gagement. The next day the men all began to me over and the progrep of the descore was stopped. This was unfuted to the great quantity of howder Inschorged during the Engagement. I'm Acids of all hunds one observed to purify therois Herew the mos of Vinegar in Inch stromes and in word : tagions doorders. Another and way useful method Janmering this End is by mostering common Tolt with a small quantity of water and oftenwood decomposing it by the orthicolic acid the frames of the Munatu

It lightle Ethank it gives the sing or will the Ju. 10. registerent entry unto mountain with the furtind in or to de shoot them I wanted till toma blesse gestiented this that the William continue Huts is autorised by its ont lorson. I many this War htia Land on ship belonging to show all whi oil of the were ill of a pertund from ther agrou tota in the the ad by egtt lake र्थग

Murratu and arming and having very agreable effects to 300 To avoid the morning and evening air and Sews and never to go onto of a morning on an empty Stomach Many herrous accustom themselves to take a Fram in the morning before venturing out but the eating a fruit of Briad or taking Bitters and with water or they are powerful tonics would answer equally good ? Justoses. The proctice of taking Bothers in the more ming is very destructive they weather the row of the stomach and lay the foundation for the intros duction of sportuous liquous as articles of diet the fait tol effects of which I need not mention. Chamos mile to or an infurior of bentamy or other line to healin water on much Inveserable to Sention or venous bitters, mone of the littles some be laken in this way and Julling the Normach with any thing gives terrior to the System. Some how nothored the routagion to be untroduced by the Johns and hera hen totacco, but the worth of the Poliva does money home than this protetier does good. The von = down matter produces no miall pos when received into the alementary bound, this is suffreently froud by Dobowel of Trueton. Do Mead found that mone of the most homer ful poisons upon the yester when taken into the month provided this is in a round state. The Contagnous matter is necessary to the Now and Lungs and this the stomach and

many and his way Lth. other Shole tagio who and lay the formulation for the und # in our enformer of destroy or other Whey at the Takeof and fulling the stormer it with only thing mfe quilito en gen tate I an total era total more to of the later later me tony Band this is will remembly in from of the many the many property of the same with the latin in to the more the product that is in a way y ango The the try was a star in the Now and surreys and the the star serve

and Bowels are early affected in contagrams disorders, this is to owing to the Connection which then organs have with the Brain. It brust of Brust or but of bismit by troughthening the I lomash and thus giving lenson to the whole system enables it to withstand the effects of the To avoid Intemporance on the one hand and two gnot obstimionment outher other. Thou persons in the west Indies who sem anost subject to be affected by defeases incident to that Elimate are generally Englishmen who live luxumously and intempenately on Beef and Pors to, and the deats men who restrict themselves solely to their Booley Broth. gth 18 heep rome impreficer on the Nervous nystend to frement the meannes from affecting it 6th Yokeep thou parting the Body that and most aspond tothe infution or boutagion wered with bothy or oily intistances. How allow Chandlers and Josh Boilers generally weaps the 2 lague W. and it is of a uned that Hoge that are lit by the Rattle Inake on not offerted by the poison. The Rober in Great Bontain outhis principle out marcinal outinent on the Glain pains to powent Mois wentworting the veniere ed du cons from un fer tid bemals but vil answers equally well and it is a artonic and infallelle sell mity against the veneral forson Infections du onders and unch as von propogeted by

family to the Coursestion which their organs the the Morain. It bound of Bound on hat of himes sthering the I lowered and there given y eny " alacte of the madeline it to work sound the office of the. As To avoid Information the on the one himself and the good lad eff W been the same among and seek to be appointed by aly ing to also to that I hundre our generously English w. 6 in, Alw ed Bowley Buston. u au tdesler week beegt there from to of the 115 ody blind and 201 infulner or Earling ion was educated up the folly or howi the 1 that though the home list by the the the the suches on - www fat. this principle and universal outerent and former to former their contraction thing the invited The 1 sepa partly multi and it is a contain and mile the famil Matte ity against the view hard forter he organism compressed on and propositions

sated from one person to another by the air being unprog of with with measurata arising from the infuted formous the lody originally. The plague is nother an infections than Contagions desease or perhaps it is in the medium. I extainly believe that it is never propagated beyond the broth Hogs one offen but by shahes their fat proventing the had effects of the posson I have heard Mat fould have been preserved from myring from unnedesty milling the wounded host with oil or any fatty miles touce. I hemestry presuntes us with facts analogon, to this, the most roustrie about blunded with oil furs when an unocent loop; and seids how their serid parts deshroyed by being the dated united with oil I am early conceive that there may be a burn for the Bite of a Rattle make, but in many wares when her a some how recovered it or experienced no bool effects from the Bete herhaps the wound had been inflited to you rome host when them was a considerable gon tity of fat. Co loather will also in rome cares howevert the Bite from hending dech . That the Bite is fatal we how no non so to doubt them are too well attested forte Shack from the trutte of it. The persons bit genes molly expire in a day or two. I haveon veloted to my family about 40 Males from this bity was letter by a thatter Imake and experied in about 24 hours he was seized with a puting which continued till he died his their became very yellow.

Muth the from another in to another by the air haing inviery the the most beauty from the most prince to four come the bully animper of the players is nothing an infertion of the Rybor Contragions discours or freehables is in the middless on the if he have then to it is now propagated by seems to the etven the thousand from his by when her them for human the get to offer Elizabell est of the passers of heart heart had fourth to the him preserved from enginey from unidealy! my the morning from the wife on any forty matelled I I have top promeches we with fourty one loger the din this the most count is about the deliment with orders an unaccent south ; and exists have there down who dealers yed by having before dealer and that a will only he of the of some server that there is among that so terms for the of a Kalla on what we recome which the state of the state In lumino present is it is one experience in a sure burner of ment in Ham The property of the second sec 地上 fated leather will allo in son no non on? to don't then are too will a the til ut at he with from the tradition of its The passers his general ll lu ally experience in day or two. It progen well to mue of formily or Cont & 40 ML les from their bety wer will In Mother Insulas and eigherend in a land I fellowed ! that ho was surper with a pushing which continued to a died his shis became o very yellow.

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The Methods of Ichenoting Solts from the solution who tower with which they are combined on the 4 following 1t By bougalation: by this method the frush water only is frozen and the Talt presipetated in a wolid form by the extreme wold; this is only und in the northern parts of germany 2nd By waporating the furth porticles only of the water which either malurally or orliferally flow, in whom the Land by the ordinary heat of the Sun. It is obland in this mann or in Holland Fromewould Dungony but in greatest quantity in South America and the bake de Nand Islands Borning the principle. trade of the Inhabitants, in some parts they dig houds admetting the water brown the Seathing Water is away poroted offermonds and the salt is left at the Botton His oblamed in this manner in Italy Francoad! in round horts of Germany. In France in this man now the perspose or much in two weeks or will lost the Kingdom o whole year, this is lought up by the King of his formers general who afterwoods well it out at an exorbitant nate voundering the mall brouble and expense in making it. The Revenue whom this might article is said to offord a Million annually. When then promised it is cold 3rd Method in Evaporating the Water Blaced in From Themselves

The Mittodo of leperating latter in ed an this thing were remoderated in this of following · flat 1 its u and the Talk purasportated in a would & fran mud in ho a water ting the hard has worker mun to hand by this order warmy the soit alt. 9 the 2 would the Eaper de Mond Islands Journeins lave Will unfy firmonds and the Palt is Est at the Rother hla 4 mis m.Th way vt. 2 57 11 eting Whitest is

sher vefiels bythe means of fire this method is und in England and Sithand. They went their lot houses near the the Lea, the water flows not a pit when it deposits me my of its impuration; this water is afterwards pumped into a paw, und is this pain the fuel is placed and Mround it there is a walk. Into the Liquor when woll is houred the wheter of Eggs or what is mond could mor onces blood, this coaquilates by the heat of the fine and orcending convier with it all the impunities from An I alt. This is bolled bloom freation ofter blandices tion the rolt chrystalliges. It is Mun found into hoshets for conical figured where the water drains oway and leaves the Chrystals of rolt behind it is then cold lod hvild Tolt. The rome method is made ung in hurr fying dol genew: which is then colled hoch Salt. In evaporation nothing hub firsh water mins this niggested to It hind the way of obtaining frush from ralt water by a unable distil dation. This is one of the greatest blessing to mornions that ever was discovered and porvents one of the quatest bolametris that they one subject to viz. Thirst. There is one was where they one detwind even of this verouve Mat is fact when fuel's wanting but even her there is a method of well luving their thirst. It is a Gustown with the Ewil ropian roclors when May one young to the book udies when they have used all their water to let

in it is not a process of front with the sugar of the man in the state of plan Agrand distland. They wind their looks to Kas ot mater flows und a fit when it before of its infrareties, this water is after months the which your affered, and in their place the freel is placed and very and it there is a model white the hopers where prior the is possessed this works to a of Eggs or establish is assessed as water as who is the second with the the second of the form J-Har I will be the state of the stat miled alt Whis is bedled bloom from how offer Blandfrom falt the soft story to the wife with a special with the said H.72 in commerce of symmetric the standard or and a leaven the Obergo take of costs hechines it is then ads the distribution of the sound of the sound of the Plifon handying tot general which is the a collect look salt on every whom nothing had fire total mine this inggested to Walnut the their in find from call water by a completed ud wo strong This is one of the greatest thefing to ansone

Thouselves down into the sead by which means their thirst will be removed after they have dayed there rome time her discovery of a womplete reperorte system of abrorbents fully accounts for this mettrod of Releif. Of would havery happy bermustance if romething could he discovered which would harcepitate the Solt from the water by means of mexture glander tells us that the Glaces marrowske, a species of Vale to be desirabled have after when heated med not and though into falt water procepulated a counderable quantity polt. This at least lends to show the profulality of mich a discovery. 4th The fourth method is evaponating the water by means of a 6 werent of oir. This is prostreed only in Germany. The water is humped up reveral bet from the ground and suffered to ball on who lances that Mond an extension nortones as a number of Twigs flound conveniently, by then means the Evaporation is menored and the solt falls to the Ground in a Tolad former home henin we may have the Jenal wenner of thornes all parts of the & arth one nepphia with water from the Oceans. E vaporation would not go on sufficiently were the orean always of met and calmi, to obviate this the winds are varied and the bellows doshed against each other. By this means a greater surfaces is exposed and & vaporas

Come with supply with the surround got the pt w the in y of a complete and content you and observed the fire with the median of the left of the would porti come that by businessand is considered for mo ore discourse asked in would proceed the the lots for worth john by men of me one granter to the un The file or guinnalitée a species of Pale la la the been in a home offer show he atta med hat and through the fact and to fore for fortest or muderally granted tune look This at least land to show the file hay mttu bur The form the was that is enable on thing the institute Wat ream if a to sure of open , this is from the configured only in . anne " formany The moster is himselved up account for the サン Hill the second with the said of bright was being the V. ar ged and continued to the color of the formation of the first the some week for the same the Evertone of the the The same and the same of the s

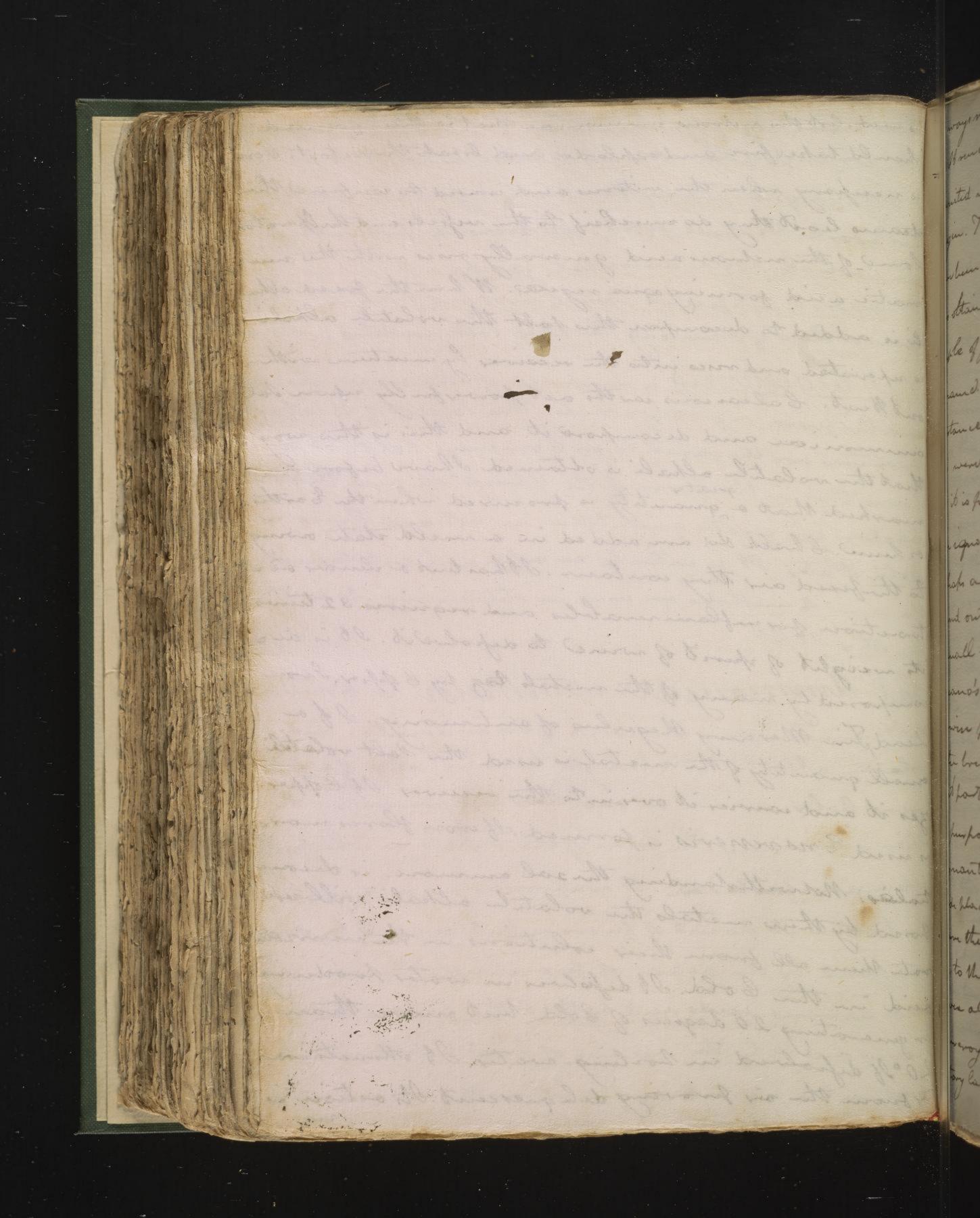
tion more rapidly arrived on. It is I leaving to trace the goodness of the represent to reator in what at sent right might appear the most deformed sorts of his work. We shall find, all discond harmony, ell partial avell unevereal good. Thro on 4 artificial ways of making this Solt the some or those of obtaining the other tolk muitation muitandis Sal digestivers is womposed of the munatic aid and the fixed vegitable alkali. The Effects of Ab caband mentum and the same or on Common solt. It differs from their in the form of its Chrystols and that it dipolives in groter quantities in hot and than in Bold Water. It is entirely an arbifunal metatamed and the same 4 methods are used in ottaming it as of the other Jolto Sal. ammoniac: commun. or bommon tal ammone ar is composed of the mussatie and the volatile alkali. It is brought to us in cakes of a dity brown bolor concave on one side and convex on the their answering the form of the vefrels in which they an manufactored. It evaporates un a digne of had below its point of funow but comed be de = composed by the action of feve alone. The vitrioling and networks and both of the fixed alkaling duompose it by the means of hear hat the hear must not be pushed too for when the netrous aced is

con more refuely worded on the is the comming to be and ald ta gooding of the interior of motor in what of fourt un les to the support the the start to the support to work. We shall from a sell devend havening w of the and and answered good. line on I artificate may of making their light the ti au mess on there of obtaining the other look unidated interested adde it de de la company de la commonation del commonation de la commonation de la commonation de la commonation de la common inster Hust. within our therance so we be made to the fifty the more and the form of its shipston and theolish 1the N departure of greater great their in that were there in the wheel sold Water. He is entirely an orbered and mount of med to tofice It is that an involve of the said it so the tion wigh of Minister Carenisters in Comment horest mornior is comproved of the mountain and the din alatele although to brought to us in when you dity le que on lake inverse on our lake and corners on the !! et an her commenced the form of the replace in which the emanent of service in a degree of the and ledon its point of presson but common to de de all dby may have by the continue of form and making all the med whenes wards and hother of the freed althaline company to by the meaning of his the head and he produced has for which the milimum as con

is weed, lest the nitrous ammoniae that is then formed hould take fire and explode and break the vitort. bord is necessary when the nitrous said is used to contine the teams least they do muschaif to the refiels and the Operators Some of the networks acid generally vises with the mus natic acid forming aqua regree. When the fixed ofhe his added to decompon this solt the volatile alkali is repersated and rises into the receiver by meetin with all out Heat. Caleas cous can this act powerfully upon tol ommoniae and decomposed it and this is the way that the volatile alkali is obtained. I have before in or hime - bhalk de am added in a mild state owing to the fixed air they won tain. It has but a slender of all troution for unflammables and requires 32 times its weight of spirit of wine to depolice it. It is de a weeposed by money of the metals thing by boffer, I von Lead, Tim Merenny Megnelus of antimony. If a moll quantity of the metal is used the Tolt volateli. - zes it and convier it over into the necess. It Bopper is used & no venerio is formed. If won flores more tralies. Motorthe Manding the sal ammon is Lecon !!

horad by there metals the volatile alkali will repetite

to the sale of t rate them all from their whater in the mirrote seid in the bold. It defolves in water troolings or generating 20 degrees of Bold but mon than il 20° It defeated in harling water. It otheracts wer; ter snow the oir severing deliques cent. Its oction is



is ways vermas hable on anemal and vegetoble Inlatan -us. It mud on the rims of vigetables and the Gum which to is united with the rime more while in water. longin. The knowledge of this rulestone appears to have been very very an icent. Pluny mentions it. It was obtained in a force from the Bounty near the temple of Jupiter amonow from whence it derived its named. The accuents thought it was a natural mestance from whenew some have afserted that they were unacquainted with the true solammon. but it is probable they know the Intestance this they wen ignorant of the manufactory of it which was perhaps a reaved and in the hands of but a pew. It is found out lately to be an artificial Intestance the omall quantity of it is sometimes found near Noliano's and wal hits. Sal ammion, may be thewire produced by exposing the movine and to the breath of animals: but it is procured for the most part owleterally from Dood. The fuel used for the this purpose in Egypt when it is manufactioned is in quantities is the Dung of animals. The root is ofter wonde bloces in B ofther and millimed by head the list the are then broken on the baker of last which ad = } hem to their necks in the form before mentioned (ionven alove and even care below) taken out (vid.) Foureroy Nol. 18 P. 247 et sig.) More has been a money factory lately established in stotland near Educturg

Jand properties descented for the william alti y the mer Legor promised of this manufactory, of it ily the 4 of the fully tothe the book of the lake of latter which addo ho mhot entren Well yet P. 2000 stage & Mare Con Care natio A tours of

when they is track it from any hind of Joot. a manufoco tony of it has lately been established gib news this bity by Whyrever Morshalls. The rol ammon . prepared by them i much superior to any I ever sow imported in appear = and and very probably in Luclity. Them and 4 writes id methods of obtaining it the same or those of the they walts toutien mutation mutaindes. We now comed to those rolts which one for med from combining the Negetable acids with the defferent of 2 holes the first is, Regenerated Tartar. This is composed of the oud of vinegos and the grand vegetable alkali. It is decome? posed by the action of five alone and vivis very concerns troted someth so that the said it united with shirit of wind will form of they. It is likewin decomposed by wher of the three meneral acids. It does not act on Borths. It depolus intimotely in spirit of vine oct but feetly on metals and objectors modify in water generating heat. When exposed to the ois it beliquesus It delignesseme in the six depends on the fidele attract tion the regetath alhali has to Mucgos the olhali at. tracts the mosther of the air and not the neutral let. It has no runorhable action on animal andreget talle substances: it is always an orlife wal substance. The autematic Maxture of Reversus vis a composition Atte notion a cid with the fixed vegetable olkoli. Revis mus meanmends it to ollay nouse and to stop counting, it has since her emproved by by Br Boydent

Lyfer hand they a hood it from he of hood we will for the ig is has lately burnedate hided git wir this left by les our Superior Mordalle. The see arone prepared by the ! w 01' much superior to any some me unforted in appare ww the wind have been the the the wind have been and the second the second to the second ated " Constituted of obtaining it the sound on those of the Bone a with them in whatis we consider. write Winner want to the or after which was formed from tous a Survey the leystates acus with the the deffer and as inn lacter than from the with redestronaries in a mandared degree of unes micyon and the growd vegetable altable all is dison a word by the article of five should and view way concerns wini which is the the said of here the said of mother and the thich it to form Ether . It is a human decompared by up sh the of the three men we were a coid, It does not call out the fands. It depoles internally in spirit of round out olhal they on me take and objective moderly in motified amon ting Lead. Wh. can expressed to the oil it. be legreesees the turely quesceines in the six depends on other feeled attend have the mage to the altholic has to Hunegor the olhabi and we the the emoration of the and and not the westered mhe is no viennas hable action on americal outring the actiferium; it is always an orlepresal intertained. In an transaction of Mercan marie a company the nation and with the peaced vegetable while. The

and by first taking the halt of taster in the form of a Tolus and afterwards washing it down with he mon or Lune june an efferver come Mus takes, place in the Homach and the acrial acid is expe treated which nems to oct entirely or a redative in this Gose. Murities Munderery is a composition of the of outous acid or vency ar and the volatile alkali This is more obtained in a solid form. It evapole notes with letter head the wound or What which water requires to washonote and it may be brought to he the consistence of syrup by offication of heat. In this thich state it is very here trating and is und to durings of the strate scherrous tumors and wellings of Il hinds. The last is decomposed by enthry of the free ed alkalis and meneral a cids As motion to earth, uflammables metals de 'n no ways vemas kable. It is antirely on ortifical Intestance Sal Rupellenses is composed of the said of ton tow and the grand bopil albali. It is decomposed by when heat but much caner by the meneral acies It me lation to earther inflammables me tale be. hos to not been attended to and is no ways remer leable . It , depolues carrily in water. It has no action on vigeting The and an unal substances This ralt was first don't wired by designette are apotherary at Prochelle & ofter whom it is sometimes alled del desquette das

felle. 71 I by first to him ball of the form of and the Diller country to probe sie absorbed hours will hair or henry your offer our country things down to land in the Homand and the aireal and in the deful the contract of the first continue of the first contract of the fi hosp contend of land or or is my son the of the When and or mayor and the so lettle alhohi boa This is creare obtained in a soled formed of anapoil the with little hand the same on theat which wo the Land at the weeken and it was a formed to the the consistence of youth by off header of head. In the third state it is very semistery and is used to f here besough statuste returned himse of and unellings of w. 7 all himses The last is decomposed by withing the file frankly Il alkalis and muneral ands the relation to contis aftermodelis anotale bis is no mayor minos habling I by nac sinting on orthonol between Mish cellerides is wondered of the said of too intermediate but much comes by the member of the weed by desporte our apolisiony at 1200 helle

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Roshelle. This Chemist long held to a search during which time it was thought an infollable runedy in Intermit tents hubits supposed wither vanished as soon or it was made public. Tartair Solubile It is a compound of the and of Yartar and fixed vegetable alkali. It is man; pable of funcion and by an interes heat it is converted into boal. It is decomposed by the 3 Mineral ouids and even by the said of venegas. Hence it often fails or a harative being decomposed by the said in the Howach. Its ortion whom & arther suflammenables de is by no moons runs hable. It madily defealures is water her with mound. It outs fully on anemal and vigetable melistances. It is entirely an artificial sul touce. For the Melhods of making it Boerhow and Morgner on to be consulted. Boraso is composed of the acid welled redature told and the preed fofil alkali. It's blogs tale am longe in rigular and remorkably transparent. when expone to the oution of fine it first emits and good vapor and is then converted in to a Glassy substance which has under gond no decomposition but modify defishers in motor and again chaystalleges. It is decomposed by the Une mumoral or eids and eventy the vegetable saids andotive rolt rising in the newer by the application of heat: I bis decomposed by the murratic acid in John ? tion. It oct upon Earthy Lodies vetrafying them: it Lucy

bee in tion is it was thoing to an infeller for me to whe and but he may give in million winners had an it was this of thin & aricula of the College Min a compromise il soli with of Harles and freed my etally solled in the ing 3 the California was to be some with the same of the same the ar gin. The same of the sa I it is the wife the residence of the sent the sent the sent time to n for my etian Same of the party of the text of the former the world the land artific sure the the thoday of making it thought in mile l tobe en as in front and of the second willed had the and the process forhal although to be bloom took on lance 1 80 they is John d th

dipolice in showit of wine when heat is opplied and if this Blution is set on fere it emits a beautiful green flamely Botts upon all the metals and aposts in fusing them on this account it is used by Island I mether and other atists in Soldering . It promerpetates some metals from their solutions. It depolves deffreultly in water no guring 30 times its weight. It outs but fully on ve. getoble and animal rulatances. Inigin. It is twonght to us from the Bost Ludia show first brought it is very disty. The methods Thurstying was long a learnt in the hands of the Muetiano. It is now known and prochoed in Wolland . It was long unknown whether it was an artificial or natural inletance. But the Fruch academicions how at Length discovered it to be entirely artificial and that it is modely throwing fatty ulstanus which generally was a tain an acid on hehe blay and suffering these mellanen to lay for 3 or 4 years at which time that aid is wolved woroding and neukolizing this The blog . This is all we know how the Topilals hali is formed is doubtful and we own ignoral. whether it originally exists in the blay or is only formed by the addition of the acid. When Borox is depolited in clear water and after wards changeted it liged the bhoystals are very moll they are langer and more like the generous Borow if defrolied in

, har from it and on from it and a demant fine grown thened tak an be when all the me the and the me plant and the majorithment this processed is to be in mind of the and the my it their solutionies of dyliabure definer the immedit with mal " ening 30 times its mergeld. Of out birthy out of 4 80 0 regained to a know good to me prome they to not suderly for first brought it is very diety . The ment that y con This & friend freign was long a town to me the hands of the Philadians It is warm herewith and humationed in bolo I found it was an investment great country bushow hear admit our artificiales or continued endustrances. He was their how in a cademarian day at a suggest of decision of y depo It to be entirely not freed and that it is made by Reger though folly whaten which generally win all futio for he seems on proper to the sufferent from lative Informer to tay for 3 or 4 years and which themself their & When they will in all wis human have the top it well before a formed is doubtful and mis our grown The send on a form of the contraction of the good of the contraction o and I some addition of the coid. When the ord had be deposted in their water and after more to chingstock " the the the brugeton on my moll they are bringer. I have more the the general is and if deficieted will

Lime Water and after words thoughtallized. The aid of Bo. non hanges the hymet of violets helps the Junor of metals and is a rolt. We more some to their un in Marmary and this is found to he very extension. They one all proused or this they has distinct within This mustake aross from ignorance of themestry and of the animal occomony, For the human body has been son ridered rather as on eligant chemical refel than as an anima: ted machine or wather a system in which light we should always couridar it. They have all been aparted to be woods ing. This property Doctor Brovelesby, thought to be owing tothe bold generated in their solution, but this comed With base as it is necessary to dessolve Mun before thy war be taken, herides all solts do not generate fold on hing depolved, but some on the contrary produce heat e.g. Regenerated Vastar which is the most cooling in its effects on the body. I believed that they all and outinly or udatives not so much so undeed as simple acids hit then their effects are propagated further in the Tystem and on life confined to the stomach; many of them reach the Intestines proving locative, a moll port of Men may probably enter the Zacteals in a greatly deluted state and by being wellested at the Ridneys may prove gently diure. tie I do not o-frest that they were from durantic untill they much the Kidneys they rometimes how this effect al most on soon or they mach the Stomach this ortainly must be owing to their acting on the Homach till

land Water and after words a lang inline the how Athor there and is a sold. We man count to their one in Planmany and the a print witen y enterior ? By one all promed or the they have get to be and tra r unal among the the human buly hashin consider debelet pather so an eligant demices infect have as an interest The state of the s ution the stay have all been appoint to be on the the mate of the final types of Bearing the mater and the second of the s the bod generated in their solutions, but this round the hon the first on it is marying to defected them he to be and it with total for to taking hearders sell tolle to many seller of any but they deployed but row is on the row for for adult the your Many which is the most sometime of the many The transmitted of the Control of the particular of the standing of the standi & Tres reduction with a minute or made or must be needed by I will the their any property and property in the property of the same of the

They are very unful in opening the Bowelo and frowing guitte pur gatives in obstinate costiveness they open the Bond els without encreasing spasm and without writation in the system here they are very proper in Hemarkoges for and Gonorhood? When withveriels depends whom Hysteria or Hoy/rochondwasis they are hurtful by marcing An debility that then provide and like wire in obstination of would when them is an alonine of the System. They one unful in obstinate when tions and han their note of tive virtue seems boujued to the orteral system? In humotishe whether they prove un ful by gently open ing the howels or by acting as udative on the artirial up time is doubtful. They are very properly added to the Hork to take of the fixed spasser that may exist in remit. stant and intermettent fevers. Howing their them spoken of the general virtues we hall trust of Mun fastienlas y and find of, glauber Salts This is one of the most unful ofther number. It is one of the report and best ventures purges His found in small doses to be excllent in believe fe st was It has been of tate much used in the Dysentry and is strongly recommended in this desorder by Dr Mouro when combined with manna. It is he hereing on excellent militate for that naumons and drague of alle mede une wouldn't in the for ementioned discord. Epsom Salts hope police to the same qualities on Glanten rolts and om lettle interior to them. It is not properly

The same of the statements on district from the same for the foregoines in obtaining the start of the first riolat the restlicent wines consider of the and protection of the line of the line of hufly. the file with the way the first was the way with the ad and the second of th distance or the sportion demorsis they are hunter to by in more in ullend detally that then private and whening in obstanting trein can is our about a deer of former they and guil . I to a love in the wind down a wind the want to in his fine you o de sontino desens hayaned to the outened by then I mprof deminate the they proved my for they get they got a ugo, i up the travels on by acting as adaptives on the arterials them is something in my property and the the person and to lader of the freed when their many mint in many withou had and unter writtent from ducid Homey then their spoker of the general variance und the times of themporter and one of the mowle hasu blessber Jakto Min in our of the inson undie gother Town the is one of the entered and been to make four years a forged in small done to be mellent in themse p and It has been of water much us ad in the I your truly as in strong of reconstrue anded in their describe by The -dani bound at our worm-breach with marriage. It is to knowing a seculiant intetents for that manerous and desorgers General western to in the for ementioned descord. Well Sally hope almost the come qualities on suling and to any a good to teller, unprison to them. It is many

posperly a mentral dalt indeed but may prope to the Bots Vitriolated Tarter is a rate and gentle him is chaffy to be used in whom matismo whom it tended with success. It was the only hungo und by exullent character D'Magran Vitre in an exullent deterging and woling me and is most unful in unflammatory fevers. Metre detergent in apt of the month when much with margar or what's letter burnant felly. It is found to humprofor in the asthma as it is apt to writate the Lungs, it should Manfore be used have and in course impultions with contion Drbullen related the bow for person who could not take the hast hartile of ni the without how during a rough. This effect was even produced when it was thrown up in a glyster without his how ledge. In Ho comoftoe when of the active hind is is an excellent runedy. Mitrous Ummon: in hut lettlemed. Common Satt has been little und till lately in medeine. In spening blystens it is made un of and hor sometimes hecked the most violent vormitings but Landamin in this ion an owers letter. D'Bullen priverber it in moll doses for the I erophula or welling in the week have it acts as on universal stimulant (vig a ? to spoon ful every morning). In the emoptoe it is a most exullent medicine, when taken in a day forming 3 Bases out of 4 it has howard a Gund. The manner of

word , Whereolected artear is a note and youth him to the expert in when wind in the wind in the sepre bushed with successo. There was the only hungs with notes mund for a commercial, Author dein retreet is an excellent detinging and exclining in a most water in unthannatory from Water nm witing in split of the month when miles in mayor or what a letter burnered felly. It is found to compression the asthmas as it is apply to untate the kne hunge, it should throughour be used him and in court populations with contrain 906 willen inlated the bour in la for person who con led not light the land particle of mi ghas the without him dering a rough. This effect was seen produced when it was the rows with in a flyiter without of his how bedays for the general too when of the outine him do is with an I an acculled munedy Wetstord thuman in his at attermed mana maderines his opening by time it is made ning and thito has sometimes decked the war volunt rountings his landayin in this was an own letter Gradullen have the him woll done for the desophula or welling in the well have it with no on runneral stume land (ing or a special formy morning). In the complete it is and

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to the Bots whiliting it is to bake a tea shoonful at morning gradually evenaning the dos comes Stone on hear it . 6 ommon Solt has like wine unto fix Innefrin Hemorrhages Ball kinds. Pitriolic anmoniac is relacomuned in n the common dol ammoniae being found to its virtues. Common Ummon. has been raid to render the poroxysmo of utranttente vigulor and has been und by To Bullen in that intention however he rays he never knew it aurur Mat & and. Thirtus Mindeveri is a very agreable medicine and in longe doses proves diaphoreties but in mall dons has no effect. Digestive salt is not what we would unagen it from its named for it does not promote digestion and has no vitues in any obscore Regenerated Tartar is an agreable rolt and may from agood deuretic. Tartar Solub: is rome times und as a purgative but it is hable to und orgo a decomposition in the Homach glater last ought therefore to be purfarred. Sal Kupellenors is entirely laid and. It is to however an agreable punge.

pulling it is to late a tea specing it wing quaderally ender any the day to me istende a here it is a common eletted and the wine mited uneprin Humondrages Ball hunds. y are d my free morgania o o o o o sale a series of sylving hypoer ion dock amunousies being formed to of they Mor The same of your and the same of the same ty gth syrus of without organies and has here weight wwwis Job willer in that interition hours derroys of h seems have it amount that I said. ands whether the is a new operation in course Shing in long s dover proved dischlandich luding molle volen is ground the con-Mina girting salet in regular on monded war in the water by them its manner for it does not know to digastros and boli warmer in any observant Other a and for the time and agree the west and may from Huill and down the.

to the Bots Bortho may be défined thon bodies Masan is somes stone ter not inflammable, nor volatile but extrea y unto fix converted into Glass by furious or the action of They are deveded into 5 hunds ovy, 1st absorbent or 2 Gypseons 3 Clays 4th Flints or Vitrescent ky or Apyrous & arths. We shall trust of them in on The absorbest or balcarcous. The heif and sistinguishing property of this hind of earth is efferveacence with ourds. This effect men is to be portunearly attended to; Them on other earths which seem to contain air and to give it out upon mexture with airds but this is dulingueshed from the efferverence by not being wondden nor so unfatuous or not carried ou with meh violence. To distinguish them brown their costles we must wook Menin water to extract their loow six dry them and if they then effervered with outs it is a most of their bring time Coleanis. This is whenin a method of laying Time I tome the morn it affervesses the letter with Line stone? They are very various in their appearance and texture and affer in the following hartenlars, viz. Some and hard some roft, or morble is hard and thalk roft, Some one transpa unt, or Chrystale, some our spagned and oleffer motion their of horance from common couth or line Stone. Of then Earths Line approve to be the most considerable and to hopefin rome degree the proporties of all the others. We shall Monetor a legin with Atin Time exposed to the fire undergoes a counderable hange

were the the may be defined there declies the con dung y not englamming the , was so lately but an tree english with Glop by francom or the detrois ing and derivation in the of himmedo very, it is the son her dim h regimencia 3th Clays 4 "Thurts or Vitorescent in Aprile 200 to a this . Who should touch of the in in outer absorber or to aliancous. The chief and the g. of their hind of conthe is office reaccured with mide. Then end morned is to be portunded of atlanded to their on other worth madd to seem to contain him and to give it oned uprovious ten restro with a side but this is declinguished from tour affirmen abling a sudden nor is unfatuous or not carried on Lon kanw of their in water to enterwater their larry win dry them an Limo y their efferment with out to in a mount of these being election This is to have in a suntine of by highing dienes The main it efficient the Letter in the Line of them. l sho l the month is hard and to halk ropt, forms a I go Collings take, some our spagned owner on they were the the our from women to the or human stores. If the mild with land opposed to be the most considerable tulis logepier was degreed the first the of all the others. We set unit when expand to the four

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and lons one thend and sometimes to the Bots comes Stone browns very aired it is then capable of ento fix woroding many substances which before on. Lemeny thought an account of luneny fund in Macquers Chemistry) this lost prop to its attracting the posticles of five, but we it is enterely owing to the extrecation of unter with the interiolie orid with violence mil onty forming Selevites. The efferver une Mat lake blow whom adding the vitorolie and to have depends on the extrication of fered on the ramed or in the Alhalies. To determined the quantity of our lost take Ij of How Zune with or much vitorolie acid hut them into one scale & ballance them with Soud them add them together oud the Limb will be found to how lost 14 of its weight, If let of Vartor is und instead of June the some effect will also be formed to take place. With or and 0, it combines but weakly and may be uperated from them ly the addition of the vitriolie acid in a compounded state. With the orgetable and it muites but feely. Sedation ralt has no or tion upon it and it has but little attraction to alkalies in they wild state. If the oblide is somethis becomes wild and the line becomes courtied to relation to mentral Solto is very elevator and it outs upon none of them except sal Ammon. whend combined with this a volatile obhale ores in the necessor. The home unctos with the murratic and and the fixed our and 1/2 or 3/4 of the Tol annuon. army in

my . and lone our third and sometimes francis in the state of their water of atrest , another many which he ad by you itement than your for our occount of the pull find in Marguer Shoundly) This Com and to its activating the particles of fund but a second to my to is entirely owning to the anti-contion of the sale guel with the entire due proced mother waster will be the adoug forming believe tes. The efforms unis that lader delete in when addry the retirate and to hime defined on the estimation of ferral and the rains or in the Milahinesto harron Menne the growthy of on load toke to of thousand with with or much retired is said find them in to one I sealer Ethir server them with done then add them to getter out the hand with in formed to have lost to of the manghet of the you a With of Tranton is much in the of June 2 this some of first who be formed to take to his flace D. With or and the same It conclines but wealth and money is appointed from the the addition of the enterioted occid in a comprounded state Willy tolly ling stable seed it waster had feeling, ledation rabbe hangers and effere and of and it has been little attraction to although in by mild state of the column a challe is some time their decourse with all the time is becomed in it is to relation to mention to mention to a fixe any elevater and it sets where nous of them weeks elek with the man were combined with this a waterle settle for one Municipal The house in the the mount is send is fed the prest seed for or 1/4 88 the lot ammon arriver

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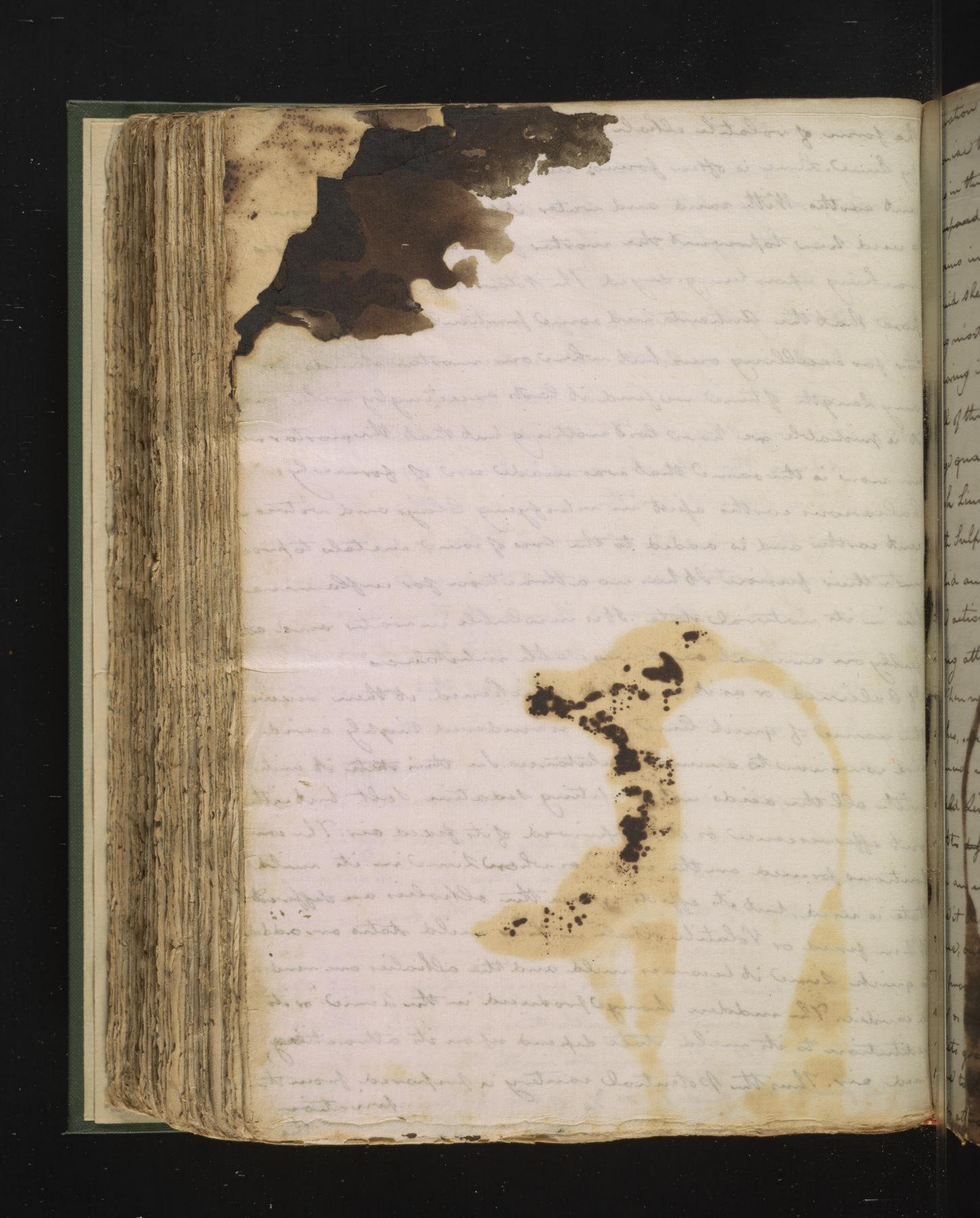
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the form of volatile alkali lill is to the Bots - by hime is often found united comes Stone and earths. With rand and water is for unto fix is used how to prevent the mortar of washing whom hing dryed. The Notantes for pose that the antients had some frastients to for excelling ours but when our mortar stands for any length of time we find it lasts exceeingly well out it is probable are how lost nothing but that the mostar we un now is the same that was made use of formerly. baliarious easths afect un velus fying blays and vitues. unt corthes and is added to the ares of some metals to proc moto their fusion. It has no attraction for inflamme the in its natural state. It is mobile in water and oct July on animal and vigetable metatances I bolimed or as it is welled grickened it then muwes the named of quick lime good is rundered highly aired and convoince to animal whitances. In this that it writes with all the acids not sufeting sedative Salt but with out effervercence or ibis lipinored of its fixed oir. The com Soutions formed and the rained or when Lime in its mild thate is used, but its affects report the oblivation are deffered When fixed or Volatile alkali in their mild states are added to quick Lime it becomes wild and the alkalies are render is cavitic. The modelen change froduced in the 2 and or its metation to its mild state depend whom its attractions breid air. Thus the potential country is prepared from the



privation of fixed oir. If Both to the Bots moniar the volatile alkale comes Stone iss in the Receiver in a very acrid tate this de is prepared produced with or without theat. moins in the Bottom is fal ammoniacus liquid shell so willed from thells of one ling most frequently used and the product generally approving in a fluid state. This is the famous Liquid well of the Borow Schowling who gow it internally in large quantities or a Tolvent for the Stone: with morble quick Lime forms Striceo Work. Queklime unites with Sulphur and oils the meeting with the latter is turbid and a hind of Soap is formed. It has at the rame time action on Metals as Stone Lune. Querbline hos a les must be added to defrolie strong attraction it When wester is out the works from the worlded mother, spells and come to a day powder provided mohes, of ells and com padded: it is Men called too much water has uf peter is added than is niffi slacked Lime. If mo the 2 me is depolved. Mon wentto of Slack it h ates must be added to def = 4 than an squal quant elly depolves one grown who it we owner of Theme, and hound of. Thus Dune wasy to in properties here to trilly or Chaline it to and turns the Typich of violeto que Lime water loses its virtues to from exhorned to ser at which time a Film in to the Top which attracts her heaven muld and falls to the Bot =



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tour 2 md By Loiling the 2 me is precipitated to the Bots tom. Quicklime when exposed to the air humes stone Time by attracting the vital and wavesting it into fix ed air. To prevent this the Morons make quicklime into a majo with water which prevents the vis coming in outait with any part but the external Surface. after it howard mild by thus being exposed to the air it may In quickened a second time by the action of Fine. Lime water is of greatured in the arts. The work boilers make un of it in the manufactory of Soap. By extructing the six from the fixed alkali it facilitates its union with the oil or fat. Inchline is of the greatest Levice! in the refinement of Sugar. It outs by destroying the acid of Ingor and thus forors its Maystallization. The warred sugar or imported to us from the west Indies is boiled with one jourth post of lime water in longer bopper vefiels with the white of Eggs or Once blood which our added to attract the heterogeneous hortieles and clarify it. The dist is allowated by these inlatances or they cooquelate and were to the Top. It is there seems med off. When no more died vises which happens your nally in about 10 or 12 hours the ingar is taken out trained and boiled a second time till no scene vin and for 6 or 8 hours or he fore till it is nothing or to who between the Jungers, it is then taken out and housed into moulds with a hole in the Bottom to wife the Ignuf that will not harden to run out and the

the state of the s all do and line and a series have by attracting the which and would ed air. To prevent the the More is make ad of 3 the most of the second of the state of the tupop mintered way part had the returned to be god s the becomes mild by them trang soproses to the the in nym be quentioned to exceed to the extreme of Fence think 1 2 h water in of grainbrand in the out the party bearing under und to be in the manufactions of dock they naturally ! die The sing from the prome when it is passed that it weren thing whit the one or fat househim is got in go potent desided the ! wither or furnished of durgon to vite by disting the b for armed danger or great the way the way from the word should be and amo in the client should be the state of the said of the : Intan t.4th this er th

mainder is lift till hand which is in a day or two. About ight days ofter Jupe Clay and water is placed over this and ninewed every two or three days and an uniform heat of 9 6° is heft up to keep the Syrup fluid. The uni Ithe hipe blay is to let the worter distill gently on the Ingor so as to wary out none but the fluid horts. The nyrup is horled one mond with a small quan tity of Dime water and under goes the same twatered and is converted into Loop began as before and their nothing is lost. Touble refused rugor is made by hoil ing the may have myor a record time. No Loop myor is fit for us tell it has stood for 2 or 3 Months Lugar busy is made by howing the wich Typup on Stiles Ho ud samof each other and having it to thrystallige. The fineness of lugar depends whom the following bir it : unstances 1st The noture of the Goars Lugar 2nd lu the quantity of the blog and water employed 3rd he the warman of or mature of Outestances out loyed in refin ing Oxco blood is the best blangfier we and organisted with 4th on the number of times it has been hoiled. Time water in refining Sugar act whom the followings prumenple viz. The worm migor contains a quantity of said which prevents its thoughtallinging time worter uniting with this and forming a neutral Salt very whichling water: the water housed whom it defeatures and at the

and to go in the first to the order of the same in the and mineried every live or thouse I tay our The said the said of the said Sugar is as to covery out wand had her should have ly or with u may in there lied on and envery months or manufact of many they of brune ownerland and sunder years the sound to the standing iotou and is consulted in to Long theyou as heperd and their the ingering is look to contest motion at impor so imade by land Horgan book or come among horse quel god to affer for my tell it has stood for 2 or 3 Months They the being is monder by homeny the wich hoperful on thinks held as course and other in a laming it to along the language. The former of the golding of the soldering of internets the million of the committee of the The first quantity of the 6 by and nother ampleyand 32th and 11 11 11 11 in annih hayard un magent been blood is the first of languages and one organisame with 4th my the remarkable of terms it has been double limite in a strong way singer not when the following han here if he country of contains a grantify of and which presents is thoughtallying time mother and staire with this send from my a mentiod doll ing eather the same is defined in make a super and the same of the

some time convice the Solt out of the Ingor Mis Solt is to dark bolor from this hing conried out by the water wires the mantiful white Bolor of the Sugar and on the Chrystollezation the distruction of the ocid the Shrytallization depends. Quick lime acts powers fully on animal and vigitable Substances Ib was much und during the plague at Marseilles anno 1720 to corrode the dead hodies which they said frewat is the spreading of the infection or they would not lung them. It seems to out have by the extraction of fixed air June the dead body which exists in away! hody in a compound state. The actuaction hostens their difficultion. In outs whom the same principles in preventing Mecefronies from filling up by rundering the focus solublin water wine that accompanies them and sorries them in to the Ground a Bushely I have in now and their will have an one zing offect and prevent the necessary from Jelling upfor unal years. It is like wire made use of os a Manual but it must have be observed that it does not act or a mount immediately or by toll but by defeolar ving and actuarting romething from the vegetable ! whitains one which it is opplied Thus when loud orig a Twand it extracts fixed six and an and from from the vigetable meldances forming a solt brigin

ngin. lalia or groups grown time formed coming any of the wint the handliful white dolor of the dugor in the Shopeton yeters the distriction of the shoptelligation depende Linik ling fully on ourman and my talely butilion of much und the playing the player willed hund 1920 to correct the dead ladies which they raid form is the fracting of the unfection or they would not hay their Houses to out and the withouting a present as from the dead looky which ourselves lodgin or compound state. The extraction hosters o sife lection. in a cot whom the count from ether 1 formating there from from filling up by on for in solution in mosting unrues that conformers and coming them into the formed to Murchell Runned through in word ward their mille, hours on in affect and former the merefice defear in an amount of in the mine made in the Mainema link it must have be observed things it down will and or incommend in miner of the or by the form of by define my and astrosting rounsithing form the regulation Materias our intende it is of of and Their steer Court of havened to extend forced out and and and from agitable unbelance for many a sale

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Origin. We shall first mention the different species of inleareous earths afterwards give the origin and natural thistory of each. Thime 2 Chalk 3 Marle 4 Marble 5 Thors 6 Stalactites 7 Phytolethi 8 Looli. this, to which may be added columned bones, human bolewhere and Tophus Magnessa alba and the wheo of vegetables Line is more frequently found and in greater qua titis than either of the others, it is sometimes obtained on the me face but more frequently dug from the howels of the corth. Shalk is found in great quantities near the Lea' how mixed with flowerts. It was long a dispute whether the flint or the Line won the primary and a . Howe hut flints it is probable and formed from Bhalk The marks of shello sometimes forma in thock depends whom then being washed whom it from the Lea. The diff · from to whor of bhalk depends upon the metallic and inflammable Substance that and combined with A Many of the mountains in angland one estainly composed of Bhalk. The white Blifts of allion so often mentioned by the poets allogether cours to of it Marle is nothing but a composition of Line with a Quan tity of Blay and a little sand . If we add the vitivolic oxiol to it, it is decomposed and Selevites and alum and formed & aproof their Mat it contours here and the corth of alum Nblay. It is found in strata 50 or 60 feet below

Vergers to which first we was the defined of warms colicarcous costin afternando que this origin and natural Mistery of wards. Alimo 2 Bharch 3 March no fo 4 Marble 5 Than 6 Italactites y Phylolithe 8 Look to mobile may be added calened bornes humais en line and Sophus Magneson alles and the adora when of vegetables time is visored frequently found and in grater grant ound ! the than other of the sound is not something the with mentioned but mand foregenerally ding from the llau hounds of the conthe. brack is found in great quilletille meanther des how merced with flow to It was long a despert y and suis. I the flind or the many outer promony outer stowed had flowly it is probabled and for much formed from bland sher. muster of schools sometimes francis will interest when low there being washed when it from the dear The death od hoand a course of the less the present whom the metallies of and glaminostele Sulstanis that and wan bened water of of Shared 19 The what PEH of allinous work tioned by the ports allogather commisting it win when thing land a comprometion of humes with a ha by slay and while sand of meridal the retina it is decompared and oblantes and aldered and hory the the contains and the cottle of all log will in forward in vitin the 20 or 60 placed ledons.

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the motow of the earth and is valued or a manual lythe Formers in England. They have even ma = himes gor descovering the marke and Land is much more valued when this is found. Marle own all its advantages or a man un to the Lime it were tomo and is perferable to Limb on a sough Sort on ourent of the boy that is much it it. When a wil has its proper proportion of sand and blog hund will auswer full or well whom them is two much rand we may first throw report it a quantity of blog and then add the Lund, so that Lund will on wer in every can untead of morte and it is much heaper. We have beds of marle in this country but it is prototole it will be of much wed or long or we how Lime in much abundance and it would not now answer the expense of digging Marble is found chaffy in strata news the surface of the with . It madely defeatives in the vitariolic acid forming a true selemter it does not de polow tell handered and if an infumor of Galls he added it trickes ablack wolor a proof that mostle contains I mall quantity of mon Markle has been rups hond to be formed outwely from shells his oll morble is not formed in this mounes that

ow of the easth and is noted or in it complements in the alle. d this! land when this is ground Mine and whitehopes on an animous court to the drawn foll b and is perfectly to him I on so thin 6 is of the least that is nowen with it al the has it further properties of mind tion is ful to by your on you is notice many grand have ary ar hue for It i have I have of moments in the same Carti of the courter, It mudely deporture in the when the bornsing or time selecutes it does and defected boundaried and of an information of feeth to de collaborit hinker a thork where of was morther anton ou made quantity of more When the han here his bee and to be formed and well from the lit. tolith mother is not formed in this incomes table

which is may be readily known by rubbing oil upon it when it will appear more evident. Morble may be durded into # 1.11 that of one bolor. 2nd Mixed or of all bolors 3rd The Figured morble. If the Morble of one Bolor the white is most generally used this is chaifly obtained from the Island of Foros and of which the famous statues were made. The mixed march is fall bolows thed and white black and whete wit abounds in this Country. The mixed bolows of marble and often orti final they may be made by pouring on the martle o Thation of some of the metals in sieds. The Figured more this full of fautastical figures which may opposito memble animals and vigetables 40. Thave are those calcarcous exthe that appear in a chory tolline form. They are divided into six varieties 1 the granulated 2nd the Leafy 3rd the Rhomboidal 4th the Enlice 5th the Island or Iceland Chrystal 6th the Chrystallized Shar. Stalactite is found in the hollows of mountains Mines De and is formed by water defolving and carrying along with it alcarrons matters capable of bonereting. It offears like we org. in Chrystalo. Then chrystals are sometimes very beau tiful and may cometimes deceive hersons they and distinguish sed from the Gyprious spore or Chrystalo ty their effervesuma with sieds and from the time chrystals of the flinty hand by their being out with a lenefe. Phytolether welndes all Mon calcarious conthes composed of vigetable matters, wood petroped for entrance. I would

or more verdont Monthimay he dunded in to fail that of one bolon I'm Wheel or gold bolon 37 Mil Figured which the parenters otherwise mentanded the amount of a fall bolow her and white blocks and white with show a the description of the morning of the second setus wind they may be readed by possessing one the most the serdeterm of some of the metals in winds the Highwest many in facility facilities think prome which may offered to mentle anumals and ingelable wil olith lated 2nd the Lang miller Rhomelander Condend In the wogo the Williams or health of the Miss in woll, thoughtallinged spead. the hallows of mountains Menior rdu 4 your Lugges hankerness were because a service amone muster in into the former of your of the officer of the way in Elaptale Tim day tate and come atunes any lease Ill he Um from the figheren space or Etropolate by their afferreasing the saids and from the true days tale of the plinty hand the am to Their locing and with in hunder. leftertible meludes all thow collemens sorthe writered etable wanter work to infield for enthances: I would 10 co

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4. The

not have you suffered that all heter factions are composed of bolionous mothers. The voleavious petrifactions and disch tinguished from all others by their effervereence with seids. Pelu foctions on thus made; throw a herce of wood into whing impregnated with a Mineral suppose roleanous earths, after runaining them a certain Length oftime a perfect stone well be formed: not as some suppose from the actual conversion of the wood into stone but from the gradual rummation of the colcomons matter into the poves of the wood. This accounts for their remulating the wood thrown into the spring in shape for by degrees the wood Mely nots and is distroyed Loolette include all those whovers withs composed Januals and costly matters as borals Nells and other exavia of anemals. So unwered in the presences of colcoron motters that they are found even in onemal bodies. The Bones Horns Hoofs of ammols amall of a calconous nature when burnt this is widered. Binder this of the am certain extuanions substainces found manimal hodies which our of a colcomous nature the hif of then is the Human Calendas The University is supposed to contain the form dation of bolen has from the bhanges which it is gound to undargo in glaps. refuls. The Sediment which in then birmentances it deposits appears to be fan corthy nature. but it will not do to apply it this in the body or the name never deposits this redement till it cooks and it comed be cooled while in the body

it have you orghited that all theten factions one composed it third a Each converse was there. The colour was patingles that and and die Engushed from all There by their offeronseemin with said Peter factions on thus made; throw a peres of wood into apoint insperguated with a Munual english when when worther often running there a solarin dangth of time or the furfieth stone o will be fround and so some implient from wine) the extract communical of the wood into stone had from the quadrate ununcation of the coleonors we the in the four of the west. This occasion to for their men alling the wood thrown into the frong in shotis for by despise the wood whelf note count is distropped Lookethe in luch all those whenever coute compored faminals and conthy matters so borolo whell and other and word of orientle : to unwood in the hos concer of introversal matters that they are found cover in ancumal ladies The the Kin How wo Horse formunds an all of a colourens nature when burnt this is we don't. plable top Bender there we within automicous substaining for small troduce which our of a collection is had of their is the Housean Ealenless The throwed is supposed to contain the form declien of the from the Changes which it is gowind to undergo in g rged some in refule. The fideward when him their Birman sterner it difters can to be of our couthy nature, but it mill not do to to off My B. in the hooty or the union were deposite their administra the is exale and it commed he wasted while in the first 8 vac

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a third mildance is necessary to form the concretion in the body, whether it be a particle of Blood, of boagulable Lymph or a mushet Ball, Shot or any thing introduced externally by the Mrethra. In the benter of some bolenli a Doop of look of sfound and in some a portion of wagulable Lymph. any me of Men inlutances attracts the earthy or baleavens partigo the wine So strong is the tendency which the review has to aposit this bediment upon any extrancous rediment whotance that My John Ho muter in his trustion on the venemal disease particularly vantions against entirmy bongies into the Bladder and gives several instances when the houges from remaining them for a shortime where were herfectly mounted with colorous mother The bourse of balculi Ishould unagine go out of 10 oxists in the Ridneys from viding or a blow the Ridneys one hust and the Securition is injured a dust of blood or coagulable Lymph is effersed instead of the Jesous fluid this gets into the Blodder and frequently cannot from it rize be descharged from its growity it falls to the most depending hart of the bladder and remains there acting or muclius of the future stone. a Drop of blood is often dis horged after an enjury has been doned to the Kidneys some times coaquilable Lymph. This should be considered or a happy beremestane. A Gentleman of my acquaintance at Edinburg a D'Bragge dischanged a coundinable quan they of raquelable Lymph with his wine which by heeping

the de similaries is meripory to form the convertee in the 11 Fling thather it he aparticle of Algord of borgulable Lyighter II of Johns en mushed Ball, that or any thing introduced extremelly the third hather beinter of some bodenle a Dout of the as has son found and in come a partion of way latte Lyngh. and no of this in the continue attracts the earthy or Coleman party Hourt ined to strong is the tendency which the reviews has to of the into this Rediment apon any or transcore sediment anous whoteness that Mr folin Hunter in his tructions on the profes enemal discover protein leafy contions against entere , mo por t or give first the Woodday and gives neveral instances lun les - the longer from remouning them for a short thing me it have send her feetly mounded with whomen in wall tott lain of balue I should imagine It out of 10 cm merce the Kedineya from inding or a those the Bladery on Il ped n it and this levelien is signed a dough of blood or is ! m puo elected Lyse his is effered moteod of the despers fless the utuon is get into the Bloods and forgueintly commot from I will be deallinged from the front property is feeled to the month the string hant of the bladder and remouns them acting as tow . from down of the fature of ton a hop of thook is often di dotte to open with our empring has been done to the the the durings some him wagnitable fyright this should be considered or an dun affy burninganel a femtherman of my adquaritain Ban it blinding a Maggo distanged a considerable qua plat of a congressed higher with his would solice by here hand calcorrows. We offen mod of mushet Ballo and mall Mot being the Mulei of Stones. Then how been introduced by a wound which healed hindly and they remained telhind. The Tophus is generally found in the foints and youly hisple and has commonly then coundered as the proximate bans 2, but I trust I shall havafter demonstrate votes factorily that it is not the sound but the effect of the good. It is evidently for alianous nature, it affaires with ands it has many of the proporties of Chalk. as the Coagulable Lymph count toins mon colorcous matter than any other part of the blood it approve that Tophus in formed of this. It does not occur in the dunches of gourty highlionly it is found in the Lings from when it is friguently shit up. It also formes nound the Tuth or the Soliva contours a horton of it Magnesia albain the next coleanous conth, it is a white wished substance. It is an artificial preforation formerly it was promised from mother of with which is composed of the networks and and a coleanion conth. This was decome Lond by a freed alkali. The Method was fint found outly Affman. It was afterwards made rometimes grow the Bottern after making won mon Polt This Bottern is com hand of the Magnesia and Common talt It is decom hond or in the other can by a fixed alkali. In this count try it is made from Throw ralt and this is the Suchest way of making it) is called from the Ehrow shring from which it was formerly promered. The Ehrom Pobr is now ! made by combining the Vilmolie and with Magnine

pid 2 libbe tath they. 1 nd the il a on le

Tomake Magnesia we add a filtrated Solution of Sal Torton to a like solution of Eprone rolt both filtrated the Magnera in principitated, dried to. The Magneria deffors from others alarcons corthe as when it is combined with the vitre shi acid it forms a bitter, hurging last, but the others an wified nelstance StiBlack observes that calcined Mag= wind is letter thou common. Magnerio no-turally witains a quantity offered air here when given to also and it grequently gripes. This is prevented by humany or walcining it which defortation it fraid oir and them it does not efference with and the its defrohers in their. Nigetathe outer how been found tately to contain a cold conour costh. The asker of vigetables contain balcomons, matters. Mr Monet of the Royal academy of Jucus fint from this by whening them and often and afterwands adding with vitriol acid, he found a Seleviter with a small quantity of spaom lott and alum which shows along with isl www. earth they contain Magnena and Common blog. gypseous Earths?

love t of 84 gyseous & artho are those Substances which easily swaped with a knife and do not effervesce with acids. The first effect of heat. for the gypneous earths is to render them pluid and thus they from plaister of Pavis. If frowdered and thenown into water they ownduced to actioned. Head uperates the water from them. If powdered and exposed to heart they appear to boil which offer= and is produced by the water avering from their trotton and moting. After they are hirrit if mixed with water May form a stony map. Some digrew of heat is produced upon this beround ing roled this is owing to their again becoming Bhrystols. gymme is someposed of the vetriolic acid and a calcarcous with lovely combined It does not effervered with the vitirio and because already saturated. When exposed to an entering matthe vituolic oud and water ise defected and nothing but a calcorrow couth remains behind How of the acidsort shalier act upon it and we know little gits relation to the Sjute of Bhunestry. No Bhough es produced by conthe inflam mables or metals. When heated it may be men into moulds) after it has then burnt it may be mixed with water and muly into mondos it will afterwards concrete into a solid form from the water flying off and thus unages of dray kindling Informed. This practice is very ancient. The Trades men who work in it are hable to many discores Instances on whom mond of the powder being received into the Lings forming committeen them (vid . Tramazin on the discass of Ortificing) ligin 120 8 is found in little grains resembling & from tolt or grained Jugar it is then called Alabarter 2nd It is found in films mining obliquely and howalfl to on another. This heir by To Hell is called the Februara. 3rd In mill trans haven't plates which are very flexible and the they work

M cory 10 n tus of and report to heart they approve to love and admend by the water own you form their trother afor down degree of head withward report things may to their expense becoming I hours the · was du human 1 and a o stor u la m To whom it and now have a little of the melation to this uan Whit the notion thying the oud their ways of dear hundred n as aid This prostree is very ancesent. The whim it on both to many discours Inthousis on a wood of the powder loing newood into the change from ing de ho Mor their laid thomasim on the discount the BIS i format in letter grain memberna Epoca tol and tengor it is them welled allohouter and things our as your same allegant and pour all to one somether Thin

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do not readily do so trock this is called Glaines Morioe or Murrovy Tale. 4th In ollong whemmal thoughtals this is the true. whites 5 the Bis found in the veins of mountains it is them colled by naturalists the improperly gypnous spar. It is sometimes go dark bolor white and sometimes of a beautiful hurfle Bolor. Of hate it has been applied to the persposes of Agricultures His found to be an excellent Manner and much properable in this respect to hum a smaller quantity of it is sufficient. and hence it is life expensive and it is found to favor the ins mon of groß more than Line. Four Bushell of it one ufficient for our acred. It is to be sprinkled on the Ground early in the spring in Morch for instance. In order for it to act or a manual it is neufrary for etto how a motive for it to act upon. This matrix must ather he what the formers call a sword or in con this is not freunt dung. The application of this to agricult tun is a modern discovery and is entirely owing to our ident. The effects of it as a maneund on rolly ostonich ing. Whether it outs or a man und in fields when whent or born and more sown I know not but from facts I have hond I am inclined to thenh it does not unlighther Lands how heen first unproved by Grafs and thise graf bloughed in and the in the whent or born sown therwise the gypnous couth has no matrix to add whom & Hizound muning in Views tho mountains it is found in very longer quantities near tholle for when it was for a marly imported to this Boty Its good effects in Bullizing the ground are much more remortable than 2imi

is instruction the unfurfacely fifteen specially bolu oblay Casher white and now drive of a liquid for land of that is has been applied to the the property of stopes ato and of apolo interest and Leiner House of a forest of a and for our weigh I south the for your held on the a corly in the spring in Whomile for winter ertmol Les to to out or o mound it is mufrery do ble along for it to a the for This win interit a la sola Doba formera sa all or desenvert tor 6 opined during. The opplications of this ? alhali

or Iwas informed by a gentlimon who tried. Clarge and found in greater abundance that any other species of faithe The blays and of a roft notion can be made into a postinth water and may be hordened in the There. They on distinguished from baleavious earths by not effervising with ands. I speak Them blay and shall confine myself to the pipe blay or it is the privat. The mon this is brist the hander it grows and the mon it contracts, as fine purifies all blays dischanging the uflammable matters. It is sometimes mudered so hand by his ing as to strike fine with Steel. This property of handening by the action of few makers it extreamly proper for Bulemany vefols His more proper for this purposed when a little sound is added The vitimolic acid unites modely with blog and forms alumit alum is not couly decomposed by five. The vituolie and adhomes to blonly to the bloy that the force of five is not suffered. to upenote it. M' groffroy exposed 100 to of allum to an interior hat for 6 days and as many nights and oftomed only the ormus of vetniolic orid the wood werd it muit con za tain near ten times as much. It may be decomposed by ony of the alkaline dalts and a puro blay is precipitated, of alum is mixed with meter or common Talt the withrolic leaves the blog and writer with the bois of the Mitre or bournou tolt Munitrous and municities and having huit a slight obs. twoetion to the blog in into the necessand it is their wo got them purist. The Colorious worths decomposed alumithe vitriolie acid unites with the colorrous corth forming raleit tu. All m flam maller repenote the orid from the Blay & from the great attraction which this aid has for the for a spice of thospoons is made by hurning 3/4 of them wither 4 of any vigetable matter the shorphoric property of which

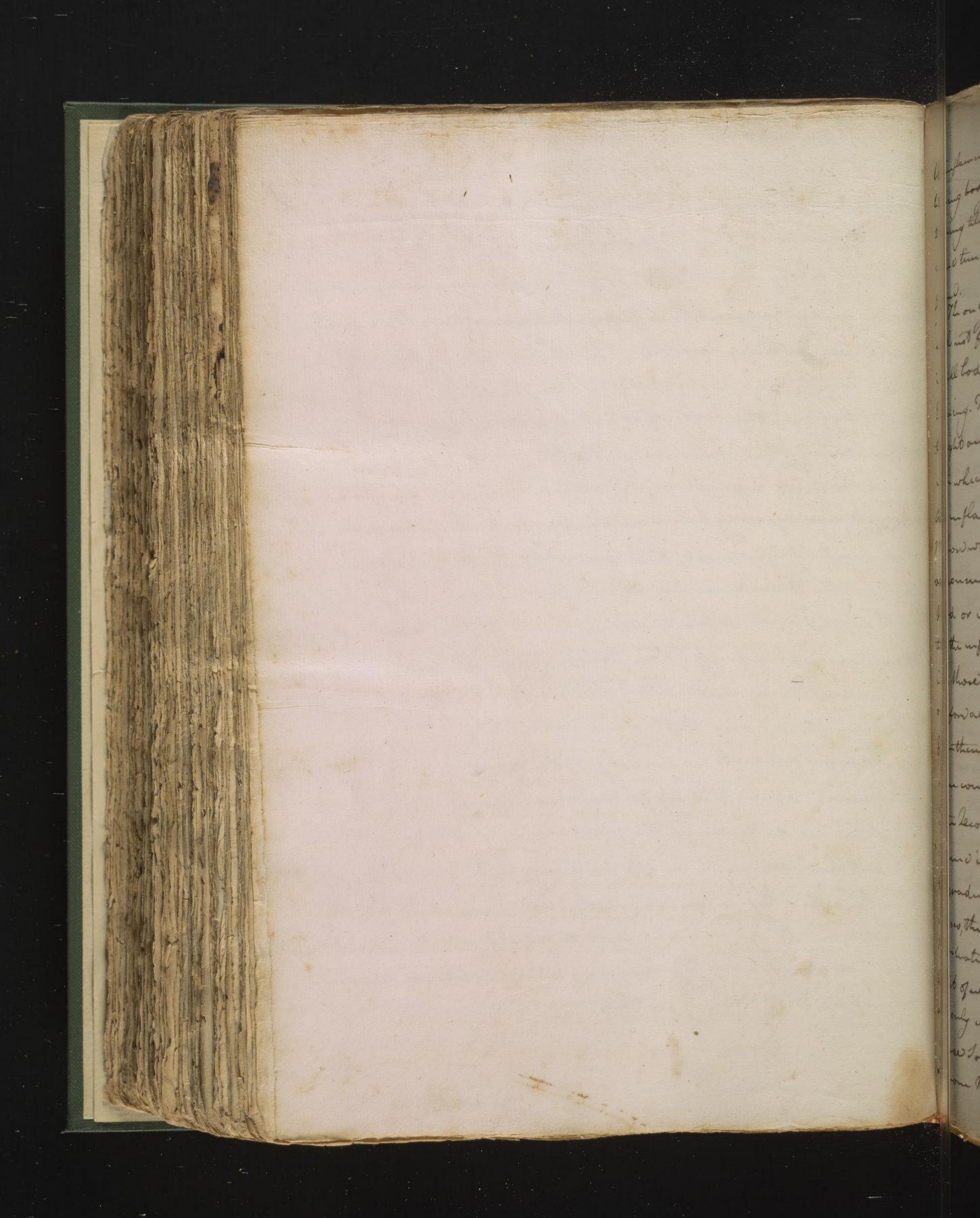
gingle I think to the Blog one into the income and it is Jan o thin, the he all on planned to repend the orid from the selen aying Tol to stune leaves of Theory in made by humaning I at gh ha to ha

depends upon the union of the vetriolic acid with the formaple Hislammolility of the vigetable militario Zine and I von de umposed it perhaps by their friencepte of inflammability. alum defeatures in water It is und to humity liquoro; the intuible aid not being all saturated with the Clay the uper so abundant hart reiges upon every heterogencous Intestained and sorvin it down to the bottom. It is used in this manner for refining wind This primpreation is made chemically. There is another method of humbying lequous which has the rand effects the orting in a different manner viz-by blay and Sound with the whiter of & ggs which being intermetity despersed in the his - quot wellet the impunities and vary them to the bottom mechanis oally - Rock alrem is more impuned than commion alum having altternow in its composition and it is also more ostringent His found in strata of Rochs hence its name? Alum is found to solution Evaporation and they in printer and is repended by fusion Evaporation and they - tolly otion. The Methons and rewroter and out on 6 log and form bothapounds the properties of which are not suffice of ently known. Clay unites with Colorous corther and Land when them and combined in a sertoning moportion they muder it funtle It also mises madily with melphus When the firm who of inflower mobility whenother or it does by sofor und to ois met ottain an olum. It is forgreently must with and whored by mitallin maters. It muses madily with water and forms of dutile haste. It has a remarkable attraction for water a Blay is of samo unportance we shall pay some allention to it Matural History and hours out the States by which it is found Grature or well or the best wethood of ollawing it from foruge matters. It is wenting, found much with inflament males had aldom with any roline whitana hat the vitrid

d. Wh uto Jung oblays Wto roft a totten Lapi Mari whees books & lone hospo Herborn and from ton 14 the 1866. www week on the head want thank who

acid. When mused with rand it may be represented by a scine Inon is generally combined with blay from which it county buperated by fine or worter. The bheno manufactory which was not on food some years orgo in this bity failed become ell their blog contained would blog when combined with fyrites may be reperated from it by water. It is und for making souther refrels. The Boles are nothing but blog mited with some metallie or inflamemable rulestance Three blays on the Bons of round points or Spanish Browness To the belongthe bulenony steatites or last stone Rotten stone Lapis Serpent. and Turpoli Stone. The Took stone feels roft and greany between the fungers, when burnt it bewone hand, probably some of the ancient busts were made of it and humit afterwards for it would be alimost unpopulate give them a holish so find or they have if they had always her of their present hardness. The Doap stone contains other mot tenstinder blay and introlic seed or Ehrom latt. The Rotten stones are Toft and countly. The Zapis despent. is nearly of the rained mature only it contains non. Many tobulous stories are told us of its virtues in detecting the porson of a virtami Seapent in the boot chedres, much os ets falling into herees or noon wit is louched by a person who has been lit by it. The Tropoli stone is only wood peturged it is used to holish To then we may add the human atua or block mould on the un for of the E orth.

Vitrescent & ortho



Inflammables an inflammable Substance is a Body which being applied to a burning body Inlustrines, takes fine and the removed continues burning till it is commend outraply or in hast amitting at the mue time a Lummous vapor from its unspow colled Though exception to this definition is Bhorwood for this will not glame. The Phlogeston or vother the fo in the same in all bodies, this is not destroyed but only defenpated by burning. The formerfile of inglammability mobiles itself in to light and him. It rannot be repenated from the Lody with which it is combined muliforthe oir hos occeptostoit All unflammable hoders and divided into two hinds. W. Mow whow to is not deferbated from them untill they's on commed 2 nd Mord which part with it before or Wood or into those that and not convertible into vapor till the inflammation has vontineed round time, and into Mose Mat on wested into vapor from the beginning or before all the principle of inflammability is difficulted by from them. To the first blass belongs & harcoal, Julphur when wentered with wind fixed matter, and metals. Hother Lecons blok belong wood sperit of wine de? Hlamo is only Napor ignited; its conical figure is owing to the gradual commention or to its being commended it rises, this courcal figures is most excolute in spirit frances The unhaction of flamois owing to the age tetion of the air. thint of wine burns only on its surface on account of the our only coming in boutact with it in thothlace, Thus & we see Tool or produced by an inveriblete representation of the for from Bodies with which it is williand. The wroterne !

able destruction of thosy which being applicable to o for handy tendered a shake from an and the many from my unfl of title it is commenced with the stand of in the ther timed in Lucinous mayber from the wind and Endle to the The only occupation to this definition is Chinocole for the martit alle mat below. I the miles or water or with in the country got to true, this is not distinged hard and of proported to ing. The former to of inglammatichery mentioned to foet 1 adopted out heart. He common to en represented from the East 1000 ofthe which is in wondered and for the out has seeighted the in planemable loders, and directed into two kinds Mission of is and deforpated from their withless ufla is and and and the south of the forth is he for the + with way or into the so that and tour or tour or the way to the the enflowmention has entirened wound the will be and g on 1 to there the to me and the water from the beginn estur on th before out the free former of a flavour make the is deffected fourthering to the form to lay be longs to have sill, de Aplans the wentered with went freed material out well in a loop lalong two od your & of our war in our af Napas ignated, its consison fraginelen

Ithe fire drives off with it some foreign and the ed mothers which adhers to the Chenney. Tost is composed of the AOS wond foreign matter voused up by the force of fire and here is very inflammable. In proportion to the longer merfour of the hurning hody in the the Quantity of 2000 in proper tion to the unaller mer for w of the burning hody the Soot is in ly monthly or there is a mond complete upenortion of the fo The formerher of Inflammon belity is never separated from a body without producing withe light or Liat or both. This is a fact that will explain many Phoenomena. Some of the inflammable todies amont natural but fre pand by art but the properties of all and the same -Thosphorus All uflammable bodies am called thosphoric that emil light without being put in routact with burning frield Then am 2 hunds of phosphorus viz Matural and ortificial the nature and preparation of phosphones were but little known till within these pew years. Tho phones is composed of the Ao and a fixed matter for which matter this principle of infloren mobility early ripe ? rates in the ordinary heat of the are owing to the weak, attraction they have to ever other and there occasion light. I shall son few myself to trat of the Whorkhorns from nome. For the method of preparing it commet Mos quers elements of Chemistry or Four every. It is so much acted whom by the order nary heat of the air that to homen ib, it must be heft in Bottler closely sopped as it is other were entirely decomposed and even have it burns with a mall glame which is owing to the Bottle not being

and the same way, and the part to the same of the same of the same This a have former or tooks when the the of said inger markers mounted up by the forest of fire y inflamme bloks. In proportion to the larger they as there is a man complete experience of the a of leapleaness and he had a more experienters attend poder curp with a light on hand on mo of 9722444 E045 hours being find in wonder is with his I dread of phospharmeny Mohimal and an peralian of prophers me in compassed of the said or feels haon ation they saw to end other and there or he solve some for some for the terre of of the holder has disco were the the method of preparing it for a toble and alcome to of the home they are otherwise gth to I hapte in Bottler word of Suppose atimbe decomposed and were there is become and and you some of which is ownered to the 18 the

decom when ates th great ah the fucus 1 ection empor Imel that l

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mal Holory

entirely exhausted of air and it may emit light without out. It is acted whom by some of the acids, when the vitorole and is mixed with it an efferverience is produced and it is decomposed without inflammation. The natures oud also when mixed with it broduces a great noise and wherates the principle of Inflammability from its Bons with great violence and heat so as to burst any vefsels in which the two are mixed together. But the munitioned produces no bhange on it. We have no och accounts of its action on eartho. It unites madily with Sulfshur, the compounds brevis in a heart of 212 degrees of heart with essame of a yellow & olor is depolved in water it emits a fitid smell and unparts an aird teste to the water a proof this that both are decomposed. It defrolies madily in oils and becomes morouflommo ble thereby if this is milled upon the Hands and face they appear to flame III Margroop combined it with bopper and Line his with none of the Mar metals. I bis mobile in water and has no action on animal and wige table substances Phosphorus is formed by uneting the phosphoric acid with thorwal in an intense heat, for the process sed Lewis it was discovered by Margraaf. Kunchels Who. Mores is formed by sport allum and sof vigetable matter the ungetables and first changed into Charcoal; the vitural rid of the alum in this base unites with the to the gradual enape of which produces light and heat. The Bologna Stone is a gryp cons couth and is composed of the vitriolie seid and a bolloveous earth, humt with Chorcool

1 the 10g ph Bottle hopon nced l Hd 10

Homes phosphonus an intenso heat is have necessary. This is only by found in Bologna on Italy. It is remorkable that in phosphorus the principle of inflammability is always joured with an acid. Phosphorus is of no use neither in medecine nor the orth arts. It only serves to enter = toin the Potovier of Chemitry many bursons experiments may be made with it. Conceal phosphones in the weck gobandle hald it over warm water, it will take fire and communicate fine to the week thus having the ops parance of magic to those unacquainted with the nas tune of the phores: As well also the following asperment viz. wrop some pho phones in tow with which were glas Bottle into which pour a quantity of worm water, or mudeold water and then add some vitrioli oxid when who water is used) and the tow on the Bottle will mally take fine. a little wormith is necessary to facilitate the uflame mation of Phosphorus, hence it hums more madis dyin Summer than in Whiter. Dr. Boerhow hos mony in umous relations of the effects produced by knows homes me in fortienlos of the reformation of a young abertine produced by it which I shall relate in his own words. We. on told rays he that the governor of a certain Woble youth having endravored by all his persuasion, but to no purpose to reformer the defrolute manners of his pupil whereby he disquaced his Birth and ancistors, deshairing of doing any good, he had neveren to a chemical stratagem which muceded to his wish. It the granless youth lay ashipin the sound bhamber with his yovernor, the latter word

di to anw. they . tor fator hore ming

privately in the night and upon a board within the had tota near the feet of the person, wrote his name in longe donacters with English Mhosphorns adding there other wonds to admonish him to repent or die. This done he returned howately to bed and making a noin room after water the youth but seems humly all the while fort orleep, the other strate startled with the moin reorshunself in bed and anxiously calls out to know the count Ithe fugued disturbance to which he necessed no answer but Jugued smoors, till looking about, he sees with the whorst horror the blue llaging letters, whom which he wells his companion, and shows him the writing, who protesting that he would see nothing bulled to mercon his fought Invanta win them ralled to bring bandles whom the of = horanie whereof the Letters disappeared, they too deriging that they now any thing, he was at lost merhoused to find the swriting vanished. The sevants quit the room leaving the bandles shuning whomthe board. The yovernor staying with his frightened diserble harmoded hum to go to sleep arending what he had seen to the adviand and returning humself to hed, but out the light, but the poor youth no romar cost his eyes whom the fotoel place than the samo litters appeared anow which occasioned a new outery. his tutor homenton fuguing him mely forgettened owns hith trumbling that he saw the letters and takes that opportunity to advise his

less under English Marphisons adding themes see de la continuou se lune la expent se des . This derivat and he is about the youth had now he will the with the enlished the other standers than the demonstrate the evening pib w mobile in last and amounty while and to have this can the forguesed distinctions as the which he wearen't no amount to more till looking when it is very mith the where the blue blanging attern when which he walls had law ~ woon, and shows him the writing who protesting rd of a similed our mothering bulker to inversement him formy with them welled to bear of consider afair the of a where of the hitten descriptions of they too decryant of will to to which or embing what his had now a con ag home of the had had on to the who

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his word to obey the muracle and reports in cornert, their bunging in bandles again, he moves him to another mooned into up with how and thus viclaims hem. Boerhows also observes that if the whoshhomes above mones! tioned be duly wested and deluted with some wift oil so that it may be sweared over the Ihm of a mans body with out burning it then upon washing the fow with some of it, it will shave in the door to the amagement Ithe beholders, yet as soon or light is brought into the place the specto-ble desappears, but taking away the light the face will become humans as lefore, than which nothing can appear more supporting. The face, hands, hois and Broad of a mon thus annoited approve to thow unacoprais ed with the matter I know not how angelical or divine. His will to be acquainted with them things for when Physic was foils us we can turn Juggless and show a mol after our heels or a mr ____ at & dunbung did from a moll humbledge of Chemistry. What I have mlatid of Whosphorns was a partificion herformance From what hor her raid wormay a nound for was mons phanomena: the Meteors which wo call shooting Ton and owing to nothing but the formatted middenly or gradually from some matters with which it is come bined which matters one so hight or to blook in the oir. Thow humans appearances brignently observed our morsher and Grows yords and commonly collect Mill with the West, seem to be owing to the same

then, ! lility. edor 1 this a these Athe n. 10. the also blance and the commence of the other la to And which the second with the second 494 partie to haden Man with the contract which es with matter one of places to theodie the oil in the answer of frances proposed the down od or out of your younds and consissee of so the de the the they are in the for a second of the

bourd. In the first bow it overs from Justinid vegetable motters, but in the latter from futured animal motters thrown out of the groves. The Lustre of the diamond is own ing to the gradual evolution of the prenciple of infloring mobility. It depends on the Roys of light for whily the so is allracted from them for after hung hept some time in a doubt flace it loses this property which however it orgains by burng exposed to the Light. Putrid Bish and rotten wood give light from the same principlas viz. the gradual evolution of the principle of inflames mobility. Then woods must under go the putnid bermen -totion before they acquire this property and we know that this is an entire verolution of the composeent forte of Lodies consequently the for which is one of the westituents ports of wood gradually escape. The american fine fly and all other insects of that genus give light from that rause). There is a perfectual generation and dependion of the of in these flies. The females as we are told by naturalists only emibthe light and this when they want the males to follow them. Some how attributed the Lunemous offers and of the dea to perention others to Blectweity but were it owing to atter of them bereumstances it should always be the round in the rame degree of heat in the raine state of the weather and in the round Latetude, but in some places it has never hun seen and at others it appears at all times as sound the It appears to defected on a number of man ommaleules flooting near the unface. I have lately hard

the oil ality. It dishounds on the Mays of Eglet for wife nely ar his allineted from them offer offer being hight son a long ndher Jours it give light from the game of home of law gradual watering of the proceeding wells में दुनी the of the monde we have the prison of the mah in he form they are great and he that from the form the form the odena line. 11 lo ble labt to of extraord governmently or replaced Som we tili a that then animalcules have been discovered in the Sea water by a French gentleman. The light they emit is thought to depend on the oil they contain.

Sulphur

Josely anything hashen subjected to more huncial experis wents than Sulphur some supposed it to be the same as the pun to and hence call all inflammables sulphineous. Br Stahl first found out that it was a compaund Body, and that its burning depended on the extrication depended on the some of o that of other things. I withhis is composed of the premarkle of In in Hammalility and the vitriolic sind. Sulphur meblines in a moderate degree of heat without flame it it does not touch the fine. When the heat is round or if it touches the fine it hum with a blue flamed and it emits frames which are the intriolie aid a little volatilized and and extreamly hurtful. The ocion do not write with it. The fixed alhalier couly unit with it forming to for Sulphuris which is roluble in water. The volator olhali unite with it with defficulty and not without the volatile alkali is in a combined state forming the tructure helphuris Volat. much recommended by Do Hoffman in the Gout. Of the couth it writer only with the coleans one of This volatile himstern is mode by somburing bulkhus Sol ammon. and Imchlime, the matter our owing after destillation is the dal ammon. foxum. We spoke in a former Lutino of the motion that Sulpher has to netire. afthe South to with only with the bolioveous. Such hime gorms on Hefor Sulphuris when united to melphur which is much like that formed by alkalus. It writes with some inflamma:

levate degree of heading them the wife it day me I toried Then the heart is named or if it touches The families Gently of the entitle itementer only not the enterior whatile thereties is amount by sometimeny bulkhard Sall gue 3 was and Durchlunes, the enather one visiting after dead red a being gole materiar that I willbow has to within Books Pyritis its only with the Colemans hind him you we an is talkfurning when susted to melphine who be in much the to formed by albelian. He emiter with rome in fla

bles as oils forming Mon useful rompounds the Unisated and Temberthemated Bolsoms of Sulphur. If an over proportion of sulf hur is defeatived in water by heat they will deposit hort when grown cold sunday to the whitians of round dalto Shirt from and Sulphus well not unite unless by making this funes week when they will unter without difficulty. It with with all the metals except gold Platina and Time mineralizing them destroying their trustre ductility and malleability. Sulphur is unobuble in water in its simples tote, but it is robuble in water when combined with alkaling It has no great action on anemal and vegetable withtances bigon. It is found in all ports of the World particularly in Italy which may be called a vast bed of helphur. Broken Bure mit in his theory of the earth thinks it very probable that at the general Can plagnation the fine well begin in Italy, both on enound of the weekedness of Mot place and the great Luanting ty of sulfhur and other unflammable motters it contains Thewoon reveral different theres of Dulphur 1st New Mas time Sulphur is found in greatest huantities in the Island glidalope. Of the hum notion sulphur then on several variaties as first hale whete in a bhoystallized forme 2nd April Hague 3rd Striated 4 In howder floating on the Surface of somemende waters. 2 nd Impuro Sulphur in What which is mixed with other matters as blay balcomons borths and Butumens 3rd It is also mused with Goffer I von and Zine in Byritis. The Pyritis courset of avenice & offer wow or alum mutid with Sulphur. The & Show gives the blue, the Iron the green and the assence the white privates. When the Byrite is expond to the in the prenachle of inflammability enapes have

ats is rod gr tes am han 4. 4th elud up? 4 ib is

leaving the extender acid with the boffer I now or hime forming grun, thee, or white vitivol. The decomposition of Dynitio does not take place without head and to this some how attribus ted the head of meneral waters and Earth quakes but of this mon hereofter. The Sulphus und in medecine and the arts is generally proserved from provites and from their in great quantities. Mundich is the same as Pyritis. More carites am Pyrites in Chrystals. Henekell in his Pyrile : Logia has the following observations. I'Me mand Bopper they boutain the life hulphers the mond I non the more Julphur. Ind all assenceal proportes contain little melphon He mond orserice the life sulphur 3rd In whatever pyrates we find Sulphuer without answire no may expect to find Coffeer. 4th the more soled pyrotes and the mason we have to wouln't that they contain boffer. Inthur is found in 4. The metals in the sate of one with all except gold, flatina, Zine and Morenny and Antimony how the greatest proportion of Sulpher combined with them have then metals one uldown found in an mombined state in notiere. Sulphus may be pround from & arths by much funow or Sullimention, Juou the Pyrites it is got by hurning for some Months the Tulfohur whiting at the Bottom from whence it is collected for use. Sulphur is got from the Solfaterrally a prosess that amounts to mufle meblemation in Italy. Charcoal this abounds with and is combined with composed of the fo and fixed air, and is therefor demployed in communicating

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the of to other bodies and in ristoring to the bolies of metals to this metallie form. It is unallenable by the most interes hat when roufuned in a close vefsel, but if hut in bon = tait with a burning body in the open air it takes fend grving an entense heart and it is almost entenely consumed of long a great hart of to weight. This has been suffrosed to mowing to its losing the for but on the vapor which arises is hornecrous to aremale and hos the other quality ties of fixed act, we may suppose that the lop of its weight ! to be owing to its parting with its fixed oir which is fur the confirmed by its manner of deflagnating with withe The nitre in this case is topsed about at a great rate which does not happen if a perce of Sulphur is thrown upon the without officer or tourshing that so heavy a hody or chor coal should be formed of two med light netstorices or the fo and peed sis, but this is one among many of the wonder ful effects of mustine. No ouds or alholies nor any of the object & Chemistry finoduce produce any effects on it withouther it is neither outed reportly water mostly oir, porter may be five: would by burning the ends of them before they one furt into the ground this prevents their attracting the morsture of the earth. It they one burnt while govern their defealution is hostens id or their morshive is their confined within the posses of the wood. Another method of possesving host is to planthim and the ground in a demetion contrary to that in which the had grown for a short and purtly ascount of the method of moting Chorcool on Nevermans Chemestry Lag. 463. andent Sperits

and fished, bufor beats of me grant from y to verigh & This has him informed there hade when the first or the maker which tuces The in party of More and it of fire a in this wood to Topled about a to great mate happened to present of Sulphier in Historian Superior the explains or town when you have he had a subject or reflected the a formed of his week dight somewhere is the of a and their is one canons prome of the work serha 1 ve and this provents this other this was that a togo uns of mother in that of present product a line to Gum

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Ardent Spirito

Andent spirits wellede only those that one metified and in flammable in the highest digree. They are called spirits from their bring distilled and andent from their being in flowmable. Showt was formally prosured Just wines and therefore called sperit of wine, but we find now that it may be got from sweet vegetable juices that have undergone the venous Jermentation. Abeat raises it hut produces no decomposition when it is hund. It sontains on oil, and mosty & Water. Aund of wome on = tomo life phologiston than that of other Substances. If reton fine it burns with a blue flame it to sending in the fine oil uniting fully to an acid. In contact of the visis absolutely necessary to the extrication of the & here the ar = dent spirits burn only on their ourfoces. Spirit wor outfores by Boerhow to be the habrehun ignis but it contains only a very mall portion of the fo. No spirit of wine is ropium but it contains 12 of water. Contrary to a former himson I ofert that spirit of and does how a men = ment after being two it, but that fivil which leaves the mollest menment is the best. Another method of determine ing its goodness is by his ming it on botton, if the cotton muains dry after the spirit is definited and may conclude that it is good buther mort of its goodness is its utting fix to Gunfrowdar this shows that the water is in so mall sproportion or to be entirely defupated. Ather is for med youron of the munal orids with andent Shirits

Christian to freeze to And in which and the the total one interest and for Au able in the English desposed they one walled sprints e itio class of house formers of formers formers formers eld ol in form in that your of organ had in friend id form he was to get from a next vegetable grances of taggline in vac and descriptions and in it is himself in the semilaring Degree llows t late to brown with a than flower of that a conday in thoil hetely meeting to the extension of the formation of o day r definite times only on their our four . Then I were file Vis ve and to be the particular egain and it wouts Men to divine the the of the forms for udle I have it inclosed to guater dah afied that speciel of mine down law and an mount of the last hand of the continue of gho ne it goodings in by humaning it on to attain it the Delly the the straint is offered and the is you will the work or further month of your alies to be

The vitriolic is most forguently used. Alther is very volotile it has a pungent fragrant ador, it is herfully colorless so light isto float an spirit of wind it is to volatile and fragment or to affered its ador thro a whole room and it hoils in the head of the human body. War it not for the preform of the others the it would always be in a state of vapor and probably it owes it fluid form to the preferen of the atmosphere "Bullen says" that in vacuo it will toil a vapor rises and boils on the newspringles as water does. Water borls in vacino in a heat \$ 400 Degrees left thou it does in the open oir and teller proba by follows the same vule there four os it boils in from air in the heat of the human body it follows that in vacuo it must boil at a heat below of Faranheit By its evapora tion a degree of bold sufficient to congeal water is general to . It is very inflammable and amit, a considerable vopor. We should therefore be confeel not to bring the Hamis a bandle or any burning helistan wor it list the whole Mould take fine. Ho few drop, of teller on poured into a while they well soon woponate and fill it is a randle is bought near it the whole will take flower. Bo Bewdongs gthe Well or be housed on a Lump of higger and this hut in to a trumbler of water, the Allen will gradually up evate from the rugar or it depoles and float on the Jungon or it is of our only nature and if fine is applied to it, it will flame and thus give the opprovance of water burning. All Epentioloils will burn in the rame

Mondo with fly fo Dan lthe, Iru

manner. This may never to explain why report stirring some Nondo from the Bottom at applying a flame to their Jus . wes they will have the opporand of taking fire, this of porone seems to be owing to the Maptha which is species finely lighter than water and by storing is repenated from the earth nums on the unsface and is inflamed like the being like it an inflammable body. This me = 1 ands but when the bottom of the Pool is black map that is hirty formed in a black roil. It is very difficult to orfine etter long enough to och upon any mbstance and hence we know little of its relation to the other objects of themistry. Ather whenotes Gold from it whition in o qua rigia. The Gold defrolies in the Other and mines on the mosfow. Little of it defeated in water not more than one the tenth post him wrome how directed to preserve it in water but this weakens, thetunath Ingin. The proportions of sproit of were and vetriolic and for making Ather on different in different on all thors. Two parts of the vetriolie oud and one of the musit of wine is the proportion now used for ma = hing the voteroli ather: they ment be mused good :anally a muddy bolor is howdered which is ownered to the uperation of some gypreous matters from

the into is is for

the vitriolie acid. When mixed apply a brok fire. When we prieve the 4 or a sulphurrous mell arising the destables hould be stoffed. The water is to be separated by a second dead illation. The matter remaining after destillation appearing the tar is a corbonaceous matter. For the prosess at large Infer you to chemical Books. How shall we se wunt for the formation of Ather? What combination takes place between the vetriolic acid and ordered shis its? to answer there questions is difficult. Theretof vine is composed of water a fine oil and an acid of the ocetous hind. The viturolie and has a strong attract tion for water and generates heat with it. May not the introlic acid when added to spirit of wind deprime it gits worter and ruffer the fine oil to repenate? May not this oil lette Basis of the Other? But to what is It's pagrand owing? perhaps to a new arrangement of horts Vaes the Bether contain any vitivalie ocid? It is unfofil He to answer. The Eller jorned from the vitrible diffor from that formed from other ouids, it is More forms probable that a moll quantity of the vituolic acid enters into the composition of Letter. The Spiritus vitivoli duleis is formed from the ortwiolic and and thints -June for the process see the new dishensatory Mitrous of the . The union of the species of wine with the nituous oud is allended with very were six sireum

toleo with. 2 it he organition of Ether Mr. hdati trioli Mesis

tances what worthy of our attention as they will illustrate the action of this acid whom the metals. If a mull quantity guitrons acid be poured upon spirit of wind a violent chillis timensues its quality is changed and it emits a fund that smells like apples. The western afterwards boils and sends in forth coprous furnes which are of great closticity and force. The networks acid when added to water produces a blud whor but it is only the Jeany said which has this effect. The mone is pery the acid the more evident will be this bled color. This seems to be owing to the of our which also its volatility depends This for may be imported to the orid. It a few drops of spirit of wine on povered whom a weak netwows and it will be made made so strong as to produce the blue bolor in water. With nitrous acid spirit of were formers ather which is different from the orthwhice ether. It is made by muxing two horts of nets: oud with with three horts of Shirit of wine which by winter along produces an other in the cold. The atter floats on the merfoce 24 hours after mixture. It does not vignine distillation. How inthe Wher formed in this case? It can & not be by abstracting the water from the spirit of wouldes some it has but a slender attraction for it. This news to modedate our conjecture constrained the formation of the ortholic Other. Let us therefore venture whom a new Hoppothesis or bongeetiene. May not the vitnous oud be neutralized by the fund of wind in the same manner or quelline is by fixed ois? May not to ourmong be blunted? May bust to und the Language of Glanches he made drunk!

and a market of the contract of the state of and ber in december which are of great charling and for Whoma is and when added to note produces bitate though witer to arrang to the of our holes of also it valette ties o Hope How in the letter formered in their wind

His dangerous to make nitions Other on account of the daste funes which arise on mixing them; this is obviated by MN Woods contravance which confines them. The Spiritus netw. dule is morde is made by adding a mall quantity of the introns and to a longer quantity of therit of write of hopes us a musles degree of the programe of the Ather. The Muniatie acid well not write with spirit of would in the mught state even in its most concentrated that so slender is its attraction for the promocephe of inflormentily. The bound a bowtenvouse by distilling maraines corros: sublime. with the combined the municitie said with the time and thus the municitie acid hung imprograted with the with outh the spirit of wine and formed a movine Other with this Juning Liquor of Litravius. Mr Wolfes method of combining them was by couring their france to meet in a sope more sumple and therefore more furfamoltes Wher has been for some time a fasheonable medecine but has no virtues different from those of spevetus intre or Minule bul. Hoffmans meneral and dynd hoper of fruith the and notion or the introducether and was formarly much und in uregulor motions of the narrous nysters bound de Lauraguais obtonned o vegetable Ether by autilling vendagins with spirit of wind. Traced olholies depolves portrolly in spirit of wome? The but mothod of some concentrating ordent spirits is to throw into them Solt of tostor (we the proportion of top of at of tostor to they of therit which attracts the water

alled ustic o altro but de lamo quais obtamed or getable thing indepriorite finitely were and other line depoleres partially in appoint of som to out to donathed of comb concentrating wider to friend to the sold of the ton live the proportion of the and server to ship of shire of interior of the interior

in them; this proportion is used when we concentrate them to the highest digree. The funit of wine is aft to acoperin a yellow bolor and a soltish tasta from their it may be freed by distil Sation. The method is described bery porhenlosely by Boerhand His colled lostorged Therit of Wine. The alhali should be moustice as proferble as mon of it there defeatures thou when it is wild. If we were agnolports of the Min and volat. olk and Make them well logether they one converted intell . hand what moss, awing to a decomposition for the shit of. wine attracts the agreeous parts of the alkali which them. whom thought aliges and entangles the spirit of wind. This is colled the Offa Hollmontin. The countie volatile olhow and aromatic vile form Ean de Luce. Luch hundshtof wind and anomatic oils form a liquor recentling it. Spt Jurind oct powerfully whom some of the compound solts. If the frame is added to a robution of Glankers walt the with is unmediately precipitated. If it is added to a Tolution of Phriol. tost. it becomes a viturolic ammoni how the fixed ed alkali becomes volatile by nobbing the spirit of vine jts &. All thou ralto that our delignement disholved in finit of wine. Of the Easthy methonices it acts only on buch limed and on this only in the tate of Solganmon. fix: .mw. This defro hers in spirito of wine abstracting its was try part, this is thought to be a bette method of huning bying the Furits than by the alkalies. It outs whom word inflammable bodies. It defolives phospho

lair a my oth hat of mines to the the transfer who were it and to the only only had being and on this only in the state of the promision for oy he hald The defendence in speak of wome sololowiting winners a point this is thorough to be or futter mullioned of his ping the Heavil them by the alleaders . It with a from inflammable hading of hely him plant

me and if the robition be added to water a flash of fine is produced This experiment necessed best in a down room and was fint disrovered by MrB oyle. It outs beetly on metals hut mances the colices of metals, it representes gold from its whition in agria rigia. If this Solution he inspersated to dryness it dipoloes in spirite of wine, the Gold after sound time upanotis and floats on its unface. This is guest for detecting the proje - new of Gold in platina with which it is frequently could lined . Sw Lewis Whilos: Commerce of arts hogo 485 artig Lut: 3 Experiment. 10) Minit of wine Bleons tornished Gold Lace and Bre rades better that roll tostar. Is should his milled on sowith about This has been a good Secret. Does it out by umply defeaturing the dist or by nestoring to the Gold the fo! We shall counder this fully hom ofter. It has a very Mong attraction for water even the punt of it contours 2 water. It love its strugth unlife well worked. It fines erves animal Sulstanus from Justnefaction. Its action whould rigitables we shall counder himselfer when we come to treat on visins. The boldest air well not freze spirits of Wine? Worm air expands on thered proporties depends its und in making thermometers. Among he obtained from all vigetable substances that on capable of undergoing the vinous fermentation by from their wines: or nother it may be obtained from firsts of all hunds by distillation.

registed of the state of inspectant to degree go either liheron Jona ed. (des Lines & Rules: Commerces of at hays 486 the withe # find. all land and the ander tother that won't tour tone h that it. - Thereth or Emish . This has been on yourself in and to be the windship defending the dest on was stade! Of a rhade commeder their feelly some often the the when the winter our witer our the family of mate

Under this head I include all vegetable and assimpl Oils and the besins of Vegetables. They in general contain a large quantity the fo and Water is here the the Basis. The water may be upenated by hurning them. On boothy substance which may be obtained by detillation and some saline matter which it is not easy to obtain and is either a vegetable or an animal ocid. A Volatile alhali inters likewise into the composition of them. They likewise contain alonged quantity of andent spirits. They do not take fine so soon ssome other inflammables. Oils do not entirely communications set on find. The of is so closely combined with the soline or conthy basis that it vises with them in the form of Smohe and So ot the grat quantity of Soot may be provented by making much a flame that the air may have fine occess to every hast of it. In this way the very invented Latips are formed. his and of two hunds aromatic and unitrious. Momatic Vils This our distinguished from the unctions och by bring solve He in water and spt of Mine, in having a pungent toste with own of head to the tongue in not being mosth or Shippony to the touch and in bung volatile. By heat May one rendered volatile and almost entirely exsponate. UD voh of oil of bloves held over a lighted coudle on a herer of hopes will waponate entirely. The odor of the oil vino first in destillar tow, it depends on the unean of the fo with waters. Afterwards water rises which contains a mall quantity of ocetous ocid. Thomas the odor depending on the principle of infloremontishing and Weter we have been taught a method of restoring the odor to the ares

latelle and almost antimoproperate: h. Drope of only a lighted windles on a hours of hapen wells Pold e, a and it defends on the remove of the different motion lightness be one which within a wind of grammatily of scattering o city of some when defending construction and he of in- florence which and thing men it is not the second of th

motic oils when it has been lost by distilling it with water, a fine progrant oil vises into the viceiver. The matter runains ing in the motort or still is of a corbonacions nature. These ils take fine easier than the uncheous oils. The Vitriolic acid courts with then oils with heat awang them to emit fumes. The netrous acid unites with them with great violence and impotnosity, united to the Ol. Congoffer or al. Tamburth it burt into flame. It succeeds bettering few drops of the veteralie acid an added. The municatilly oud only darkens their bolor and produces no heat or flame? The vigetable seid unless in a concentrated state does not act upon them. They have a rlender attract tion to the altalies. Horhays Took is made by combine ing the Epsential od of turpentine with a fixed ver getable alkali (Su Dect. of Chem. New dispensatory so) Thus ompound is of no use notwithstanding the great in a : which Harkens has bolowed on it. They do? not unite with Earths. they depolve visions and with them form varnishes. The oil in this bow evaporates and loves the visions behind. They likewise defrohm Whosphorns. They went with spirit of write general ting bold. They with with the boles of Lead and Copper, and also with water in which lost is their towtheir volatility and odor. When they have grown thick and how lost their fragrancy, it may be ned the - stored

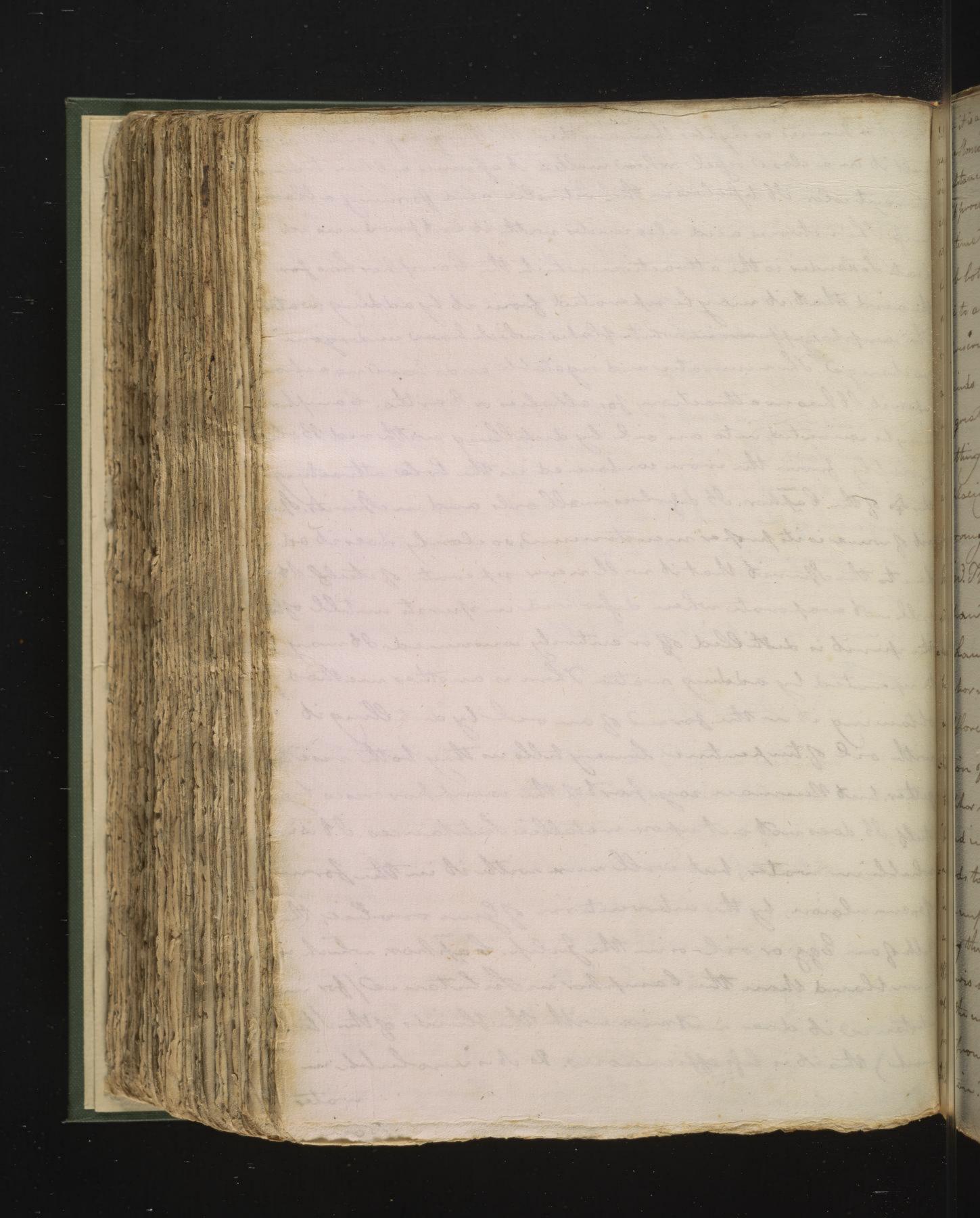
the by de tilling it with with the wheel or stall is of a condo mission mo the take five abover them the unchance or is. he send under with their who with had to count frames. There to one and united them noted gradenical and infectionity, amited to the M. Bongotts Of Tomberth it has to flow and I succeeded higher of and I per durge of the enteriole area and an andeled . The morner of you wind only downhand their bottor and provoluces no hint or if and there is the ingetable orise in the in according all thate does in the open there . They have a releader attend in to the allowers . Harlings to of is made by is met he borh has been lind oil of tenferentine with a presed were the und & peter le a charle (cle Vect of China dispensation y 2) Mins to calid

tored together with their Consistence by ordistillation with water; Hener Infor that their ador depends in franton water ! bigin. Theavilles are found cherfly in Negetables. Castor and Musk on the only animal Substances that contain them. It is this oil that gives to planto their agreable odour. They and a se wited june. I say secreted for vigetables lave two hunds of while, thou which convy the usculating soft, the secretory and thow which contain the secreted fluid. We cannot explain nevition in plants as we are not acquainted with this process in animal bodies and in vigitables it weren much more openose. The oils are formed in different. ports of flourts, as the Seeds the flowers, the Leaves, the body the Book the nost So. They one very unful in blouts? and our thought to constitute their efrance and hence the derive their named of Epecutial oils. Them only differ much with respect of their fruity. Hus round and ungialed in very temperate when weather, while others ing continue third in the woldest. Some ove of a rold form others of a fluid. Some wish in water others mine mits Surface. Some highly sevid while others affect. the tongered with on agreable taste. I'M oerhow thought this variety to depend whom the different quontity of what he calls spiritus nector which entered into their composition, but this is not the case for when theres oils how look their consistence they & odor, we away notone them by a mond distille

When the wind is the work with the folia below the property the first property that the second is the second to the second the second to the s the state of the war lating day the heart Durches windows the wheelest principle of the war & purlanting in front to as med and the to him the refin and had bodies and in martalles . with more of war of the ord of the The of Court as the Sudo The planning the Lauren he had a Board the with de Bling one my weeghed and the wife my continue the solded of one of a tion with water. The process for obtaining their oils the is very simple. To promise these oils the vigetables must first be made voted in water and then distilled; com bring always to here that the water in which they are to be distilled always toils Won they are put into the Still, to provent their contracting an empyreuma. The rommon bopper still and refrige votory may be detell used for this purpose. The first thing that vises is Phlegher or water, then a weak said spirit and lastly a dark essentil oil which afterwands comes ournand clear. The newer should be furnished with as sport like a 6 office pot to pour of the oil that norms on the merface of the distilled flind. The water which comes over is imprognated with a quantity of oil that gives using the unple waters so much und in medecine, and way on in wound cases preferable to the oils which one too Jungent. Samphor This is nawhed among the oromatic oils the it shoop appears in a solid concrete form. It is in flammable odoreferous or of a strong anomatic smell and hos a purgent tasted bevoporates before it melts hener. uldom seen in a fluid formed. In an open fine it wentingly defripated without any resider and ound this affens from efrential oils. If the wafor is conferred & is appears to have under gone no decomposition. The Junes which is last on the same with thou that ving put this how that it is the rame throught and that the

Joka I would the wood for this and lastly a dark about so 1 18 0 e & His han Jan " Ho

what is heavier or lighter than another. M'Margrand continued to welt it in a close refeel when welted it assumes a blior trans sporent color . It depolers in the vitivolic acid forming a blacky map. The networks acid also unites with it but produces no hat. So dender is the attraction which the Camphor has for the aird that it may be reproted from it by adding water The camphor appears in white flates which have undergone no change. The municipatie and vigatable acids have no oction uponit. It has no attraction for alkalies or Earths, & amplies may be converted into an oil by distilling with red Bolis probably from the non combouned in the bole attracting the to of the baption. It depolies mall oils and in Thirsts. Shing = nit of wine is its proper menstrum, so closely does it ad a han to the Spirit that it will never up evate of till. It will not evaporate when defeated in privite untill often the spirit is destilled of or entirely consumed It may be reparated by adding water. There is another me thod of obtaining it in the formed of an orly destilling it with oil of turpentine. Lemeny tills us they both vise to gether, but Neuman roys hard of the roughbor visco by tulp. It does not out upon metallie Intotances. It is in whillim water, but will mise with it in the formed Jonemanloion, by the intervention of Gum ovolice, the yolk of our Egg or oil oin the Julip. Caphor. which is mon bland than the bamphor in Intertance / for in whitance it does not mire with the bluids of the Itomoch) the it is life efficacions. Is it is muss butch in



water it is a good practice to depolovit in Sperito before it is given as all the juice as of the Homach and a watery nature. The best method gerhebeting bourphor infulstance (made into a bolus from gois to grax for a dose) In a long. done it procures sleep and Iwest and it is therefore best to give it this at bed time in liew of small but frequently repeated doses which disturb both patient and attendants. It is power fully antiseptie to animal to animal and vigetablikhibitances, it not only housewes them from putrefaction, but from insects of all hinds and particularly from Moths. Montheris also great every to moths and them for in chumner lyputhing blankets and other woodlen tothe in a trush and placing Mum m a ballar is as effectual a way of preserving there as any I have know. brigin. The true which produces the Caparphos grows, Spapan Sumatra and Bornes. This tree is a shear es of hours and is often as high as the oak tree. The bamphor rometimes transmides this it and is obtained in on offlorescent state but is generally procured by dis . Willation of the word pieces of the Wood with water The bamphor which vins by distillation is retouned by throwing Houd in the head of the Still from which it is after -wands taken and purified. His brought from India in an unprod state, its purs freation was hept a Secretar among the mading Chemits porhenlorly bythe Dutch. M'Livis inflores it is performed by pouring spirit of wine upon the imprison bamphos this diffelives only the pure port from which it may be afterwoods repended by dis tillation. The this method will answer tolenably well

& lute ubli he aday,

I is the Me that of the Butch. Mr Margra of to whow ingening and motistry Chemistry is much undetted discovered the proof afrand communicated it to the World . It is muply or fold lows, to take from three to four horts of the unpuro came ther to one port of quicklime slacked in the sis, but them into an ovor vetort to which a vicures of a Globulos form is to be listed, the camphor oviss in a hum state and beautiffed ful form in which we see it. The womeand and convex sporemen is owing to the shape of the vefuls into which it is sublimed. The formul of Sumation and Johan is not the only enlistance that afford camphor, but it may beforewed from many plants growing in worm bound -times, as the Cumamon, Ledony, Thym, Jages noumany, lovender, Mayoram, Sem. Cordam. The doing, Junihar Hypop, this last probably may afford it in largest knowlity Benzoin is a hand dry inflormmable Inholance of a pleasing not frenting mell especially when burnd. By heat it millimes in flowers of a voline and oily nature. They one Jungent also to the taste. It has her common to add Land to Benyour before melling but this enemones the heat of and forces over the oil . It will be nefficient to sprenhles the Bengon with Sh. of Wind. The meens is generally wowird heir of hoper, but this absorbs a portion of the flowers to remedy this All Beaume contoured another method by buting two earther or stone wore hours toge The Jim should be very gentle otherwise the empy it rumotic Oil vises which not only sports its bolos butder-

it site of the stan Il wise n m be the rates In the protected ourse withink and only specifically

strongs its effects as a medecine and oursions it to produce to nouseal. This property of violing in flowers is peculiar to Beneg you. Its relation to the Objets of Chemistry ion early the sand as the other results except that It is mond soluble in water sit contains more falme reatter. Benzoin is oblamed from atru growing in the Island of beylow have and Sumatria Hokewise grows in Sergenia and South Carolina Sofit budysolved in the Vin. and a little avater be added the ming tun becomes white and is called Virgini with I ponde will be preceptated which is the only safe bosnisting wo and acquainted with it softens and whitens the The bodies of metals commonly used much ex udingly myur the their and impair the health. Kevens and Balsams and both anomatic oils differing only in Consistence, the Resins being in a solid the Boly sams in a fluid Jorn. The Consistence of Resins is owing to their acids and in containing mond of this they differ from the anomatic orls. They afford by fine a small quous tity of water an oil and an acid of a vege table mature, they have a langed quantity of barhonoceous matter in the next toxt. Their doot formis damp Black which is cheifly made in Iwidew. It is made in Sweden from the Resins of the fund, and fir tree the all the other Resins will yailed it. It is only & the recommentations parts of the resins which yeeld damp Black Resins and Bolsoms and solublem the meneral ouds; they defolve in sp. vin: forming farmishes, any of the Risins with V form varneshes which and colled day

do some the other wedness we expect that she have been ilg ig the algorishing in the strand of very love strains and while akenias growin longer and could contact carolines u mask they as coince white and is willed Kogunsine this life ade the best of the mitteeth of the one by say I wit of su Mat. Commentainer The Reserva Compage their in containing morning the the stay whiles

by varnishes from their drying very grick after being ofmad upon any thing awing to the evaporation of the sperit of wind They defolw and form vorushes with anomatic oils which ! havebren supposed superior to those formed with V. The oil of turpentine is anot Bommonly surployed for ded plving them but the oil and friend both soon evaporate and leave the visin behind. The veries and Bolsoms hand nommarkable action on Earths and metallice Tubstoning When they and uncombined they and unsoluble in avater, but and made foluble by Gene. trab. D. They and Soluble in water in proportion to the gene combined with them. longin. The therins and all obtained from thes, for an mount of their vertices & see most of the Books of theme sity Mot. Med. Do. They and sometimes friend but splend combined with the genes. Unetrous Vilo This and perfectly bland, smooth and slipping to the ful. From their bung slipping they am of the in lessening furction. they do not differ in their specific Gravity as the efection orlo but one and all floaton states they and modonous and alls dow perfectly fluid, so me appear solid. The effects of head and less whom these than one the avormatic orlo, they and not converted into vapor so easily: exposed to a small degree of head they become thumas. When the head is worled to the horling fount I water a washing noise ensues which seems to be owing to oir or nather water escaping from them. They boil of of forenheits thermometer. When the hood is nossed to to to hundred they omohe at 600 they smit steams which

of the working from their despring many freed to with the followed their I had the on to and planet hath a now a complement my fred board the order bedrind. The never and Belowing hand When they and remembered they and incooler the in gooter hard smade foliable by fame. took and they and take I uned beauth of their mentions 22 will inset of the Books of ason a gr w oh NOOD BELLINE WAS BEEN

Tato fin whenthey come in boutact with a burning body! you analysing theso unctions oils water merced with and and vises first leaving behind a dark wloved oil collie Empyrenmatic' vil and v l'arbonaceous sulistance mes. morning in the netort. This & upgreumatic oil is more this and volatile and inflammable than the unitions · vilo. By redishellotion it may be deproved of its semmon and recovers its bolor and Sweetings. The unetwous oils with with the numeral acids without head or effer = visuened. The vituoler acid forms with them a control wowers matter. By the addition It of the networks seis it is converted into a buloshaned vesembling Pounting The mason why the namewal acids do not act on their with a great deal of weatened is that their hundle of Inflammability is fettered with other matters. They have attrong allowetion for fixed alkaliss and it is by thin union with their althelies that soap is anodo. as the Manufactory of Soap in of some infortance I shall make a few observations ou it. In morning soop we should antloy ather the vegetable or fofil alkali and either an animal or vege table oil. The hist rook is made in Spoin France and Italy but as the greatest quoin tity is brought us from Bostile and Penier all the Look raning from the medditerraneon is welled bostile or venetion roop. They and a vegetable oil the vil of oliver and from an alholi by lexerating the oshes of the Rels or Kell or Kell on Meind of Durchline is added to the by to make it courster by absorbing the freed air to is boiled

mite wither a van tiff for falt with with the women we are an interest had or offer lettori forms shew ! De the insurance acres a do not only on there there with a great deal of weatherest is that their plant to have o below makelety is fullered and with ather walter They has wh in estions attendential for finant although and with a spil Manufactory of Song in Room I willisten in Ale entre the medditermentand is an elled beately egni median and they in some factor of the will of the mach low Cate in the section of the weeking of the trad a with a substitute of the said of the said of the the makes it committed by a knowledge that have a committed the free of the free of

with a print contains just 16 by, show haste of the oil amad. and to two parts of the ley and then boiled in Hour fifuls but not violently but must be long enough continued to Indunite the oil and alkali, if they do not morphonato burither owing to the mildrefs of the alkali; to mor ho it more caustie add either courtiely, Queh lime or round auti Joful alkali, this showhers the ley and makes it at upon the one. To handen the Soap add tor 5 brishels How talt to 1200 of the Soap. The west allwants and dipolores in all the superfluores water of the by and follsto the bottom while the prend constri alkali allacts the oil end forms a wolid hand romere to: Michardened hard is to In taken out and with a wine. The grew wolor of the bostile wat is owing to Muguer of the Beed. The differs run believe the soap made ham and the Costile rook wint in two porticulors, that the eastile wat is composed Jafofil alkali and vigetable vil whomos this made hend is romposed of an anemal vil and vegetable alhali The inferrority of our rook is owing to our using on onis mod unlead of a vigatable oil. The vigetable alhali'is not inferior for Min purpoid to the Jofil or Most oftoined from Help, provided the veget: alkali is extracted with motionent band. In this country an oil may be moreund from the dun flower which would make watequal to that of barrier or bostile, for the method, Bestwarting this oil mid the Froms. of the American Philosophial Somety Nol. Ist in paper By De Morgan Mother alkali has its acrumony much blunted by the oil Who the vitrolie acid in allumit is not perfutly new. tralized herewite with oil and Londer of all hunds

Lance laign ubling the a titolist a think, this shoulders the lay and in 1 hum ing of faller his 1200 of the Sand Porte attack and an in and the sand in place in a court of the last and harden withi from ate is comed to the govern of the Bis. whom channe the sand made his and the book the range and the west to week in weighter to alkall and virgelable out where this virgelable Ifor fact d av air s non wents oun aid a thing wh the The second second " boil

hinds hence soap is used in bleashing and orowering lumen Hacts from the alhali it soutains on the une trong hosts of the human. The bostor oil or that obtained from Rumers would equally answer. The metowns oils with with went Atten barths but Luchline and forms a compound tomet mulling roap as to be robuble in water. They mit with whotile alkalies both in a mild and caustic state and the oil becomes thickers by this mison. They defealed dulphers Jonning Balvanio of Sulphur and unobubli in V and out attenders of Lead hence me find them combined Julgwenty with common plants of w but do not act on iron, hund the practice of anothing inon Utunils with oil to prevent them from veriting, the oil preventing the action of the air repore the irow. They and mosoluble in avates except by means of mucilage as the white of an egg. They will preserved animal and vigetable Substances from Inhefaction and thus eggs will heep a grow when deffed as buried in Tollow or Hogs Land. The oil outs much on the Muchous vils making them varied as Vigetable vils contains much agost ferments, this thereford hims putnid nameral IV. but Lyworking may be made weed again as the mener ! lage is roluble in water. Thus oil and butter grown rancid may be vistored to their original avectuefs by washing. he montern is newpory to fermentation that oil orbutter which writains host water will herp tweet longers. Thus the oil Men in London housen weit villy throwing a shoonful of helt into the flosh, the solt uniting with the water contained in

The state of the s A fil fa the from the although it we strain on the war thought all many the et with it housens The Gester oil without others of from Therman of with equally anouse. The western oil went with will and the south to make the stand of some of the stand of the south and ling words as to be when below in wollow. They were then all town place to be the wind and and counter what and the winds the will leave thicker forthis amon My defealed the letter for forming Balance of deal flows and make the fire of mid on the heep attender of head humes wir find them com buris frequent to the commen playete of as last do not as I aminored the the dansiting non themselved all to promise the ents a then from instring, the oil presenting the action of the six reform the inous May one insale the in anotes seeid water by main of muchay) in the while of an egy. His will present an end of and regatable bedding an g he forton and their opportunity or or just a fall deplied and burned in College or Mayo Laid Otan The six out much on the Mentioner oil, making Ky noved 60 Hege lable or he contains or municipal of d hm newto, this thurspood hours pertend or mind the mion ed orderables which contains hard wrater will heef

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the vil falls to the Bottom leaving the oil fund without min sting with it .. In the same principle salt preserves butter by acting on the muce lay nous hast and not on the oily, forme Here observed whole lungs of tolt in the butter which is a proof that the rolt doss not defroled int it. Whom the same finin uple (to int) the want of mostrine it is that butter which has not been worked with water from the butter mille will heep longer sweet than that which has longin. They and contained in minell cells in animals and vigetables. The vigetable oils over herbly contained in mos Thlants and one obtained from them by boiling or expreprint how called expressed vils whereas the anomatic orte former by twoted of an ealled efectial oils. The meds from which experted oils and obtomed and gent trotunated. The anemost vils av generally in a solid thate they man humade hapind by heat. They are strained this a woollen bloth in obtaining them. Along with Muchious vils we may work Sparmouti Wox and Lad. Thermaceti is a which brittle melstane with a grany fiel. It melts or becomes flind below the Lorling hoint of Water It hor a flaky appearance like tale. It handens in a moment and like the metals has no mbounchists state between fluidity and Solidity. Is have no Caput mosturing upon being distilled. It is not so uflammable or the unchrow oils here wit is med in making bandles. His not much octio only acids or alholies. It muites with Montrons oils. It is involuble in water and Therit of wine

The sile partie the ottome benefit the sile from the start the the wit a the state of the s asting on the same lay more funt and not out the offer in old was shown what buys of take in the butternolish is a proft that the rate does and defeated into it the the count from ity W apply to interplate manuf of marteness it is that lend to the start of d of the hand been non her with moter from the limites mulho mated extension mont that that their his may to bles. The way to the oil one harfy within a did not went all hands and one otherward from them by contains or explosion ulla the stabled of the first and the contract of free hard for the etain brotist of our willed epertical with The seeds for winder of first oil and obtained and first noted. The onemand Don show you will ju a soled the to they are herender 1 to the agid by heat. Thy are strained the a weather all the a obtaining them. along with Muchisin oil me may the . Cy o would springert Mon and day I spring which brittle and retained north a group fix 6: I will was blind below the looking from to got the to his a should appearance I lehe to Ele. It handen to and the the metal harmon that between flurdity and doledity. Al house no weteringue having dutilled the with so inflammandelle on the sensthisms of le hem side is ale. 86 in innoluble in mater and the

but many be defeolored in water by means of muilager Sugar makes it mesubli with water. The Electronium & sparmolis beti is anado by adding equal ports of Lugar and sporma beti this is a good medecine in boughs and batorch. Therma beti is oblamed know the train of the Batus dentatus (the Physites Macrocatholus of Lunous) It floats in the head of the whole with a quantity of sel from which it is spenated by boiling strawing. Max is an animal Intertance. Lac is an inglammable sultance with which Howard in while in spirit of wind with which it forms an amelant varriesh. Bis an animal substance found on vertain shoulds. Betumens Thewood inflammable meneral bodies, they vory secon ding to the growthetus of acid and humaple of enflormed lility they contain. They and divided into fluid and solid. Of the first is Notthis which is as light fluid hody and is very inflammable. It winsts of littles than & It is manashable that it will not take fireform the sporks produced by the Collision of flint and study Whomford a stud wheel is made to strike on flint stones in mines, to give light to the miners as the Mo-Alha is ommon in mines. On the vontrany Gunhowder well not take fere with a flame. Vetroleum is a liquid betimen, oblamed in Franco Stoly and Germany. It is a light inflammable rulestance fring from Bocks and floats upon the Water. It was by means of this who have that the ancients werd enabled to him their anomies Ships, for it will take fine while

bad 16. ud fo nt ge lay is don itre . 40 grees thou When aten

floating one Water and breve with a gentle Hamid. In round bown this it is commoned to strew letrolium upon some conth in a horth and not fine to it, it browns gently and emits a lettle flamed the burning is encound by storving the Barth. The Mountain You is much like the petroleum only somes what more inflam molled. It is also called Box badoes tor beauso it is most commonly found thered viz in the Islant gharbadoes. Of the Tolod Estumeno is But wal D'Lewis hos discovered a melstanew composed thit wal and For which will remarkably preserved wood when rowered with it: it has been applied to the preservation of this and tope of Houseo. Kanel boal is the most in flammable. Jet may be holish ed and formed into Siff Boxes. Kilkenny wood burns without flame. Amber is of a yellow and bolor and is transporent. It is found on the Teashourd all Countries. It is insmall him it seems to have been oned flied grow the flies weeds &D it soutains within its Substance, it was prote : Hy of a Molsamic notuno. Umbergresse in mearly of the same bolor of wow. It neems to ion = out of laminos. Its molation to the objects of Chemistry is muchor to that of durber. We now cound to sheak of their application to thavenacy and first of helphur. Inlphus hosbun given when an unpurity or morbid assimony of the Hood hos hunuphond to exist. I would mother Objections to this Holphur is envolublished the geners of our body which on It watery nother Merijon it usver enters the Lactions In Even supposing it to enter into the Blood it does not ownten

tothe mod The in a war war to be the second of the second hen mo ai artic ent i mlo 4hos of things and tope of Thomses. hand book is the most on standard let may be had a rful foul I is a goon you the sound to color and is have the die nud. En 18 10 it wouldains within the City House and e alla hall spring whento it the March that

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sweeten it or purify it. The action of melpher is antinely wone fined to the prima vice it never entering the blood: Toprove Motit onbord the blood it has been alledged that haveous in the mo of to have had their delver watches dissolved: this has been thought conclusive but probably is owing only to some air which hos unvarily essaped from the intesting nal ranal. It is undoubledly a very gentle rafel batha the and is very useful in the Beles. It is on well gredient in most outments for Emptions on the obin poderelowly the other. Theshor of late been much used in medicine. It is a howerful sedative and anhshormodic hencit's given in spannedic affections of all hunds farticularly no the your of the stomach. It is employed or an autosport modic both externally and internally. Externally Winned in the head ach a tea sprougul is to be houved on a fair of Cotton this is to be applied on the hast affected and to be covered with a blades We shall have our sion to mention the knows the vils so frequently herrofter that Ifhall onit speaking of them have as to their Thomas centre al application. Metals

desir a prompty of the solding of method of anti-form of the and the open former in our in a more and the Hoosell Topmer I have one b with indirect this blood it has been a leadyed that here is in the att, ofhis in of the have had their delines we hales disserted the the eletr The first consideration of the first the first the first the the said of the s phoop from six which his owner by escaped from the will the do no strange. It is an doubled by a very gentle when Ag 6 with the and is may we find on the delica of is any with the sudeent in most o entirement you brung them on the house better any v Mayber of late been much weed in made con et all in margal sedataire and anhefromodic hungo to give ld an or pharmadic affections of all hands further light on who the face of the steringed, the is anythogen to an antispery m de we one hoth extended and witinally and witinally a submidely the agl lound in the head a de a prosonfil is to be win ality? formed on a perior of attion this is to be applied and he for you will be not be so wounder the or all of the

Metals There are shiring, sprague bodies, not inflammable, not while in water, of Junat sheerfur gravity, which when exposed to a costout digres of heart Melt and when cold return to their former state ore non electric and the best bonductors of the Electric fluid Tother properties some add molleability and due tility but then do not belong to all but to some howhenlos onesonly No port of Blumstry offords us more unstruction and En betainment than the metals and wond of the objects how bun hitter investigated. He shall make herd a few hour humany vemashes on the general effects of heat and Mixes tune on the Metals and herd we shall be very general? uded and notated notice of any porticulor exception till withrat of the portion los metals. All the Metals will melt in different dignes of Leat in proportion or they one more of left volatile. They are all womposed of the \$0 and round fixed matter. Their spendor, operity, ductility, mallealishty Junibility and their non alu this proporty depend on the franche of inflorence is bility they wentern . From the abstraction of this principle they are veduced to the footing of common earths. The fixed mat is to which remains after the So is definited is called a calx from its supposed resemblemen to que ch hund, be caused like this it may be reduced to powder but it differs from him du the following bereion stances that the bols of Lundon quek lime may be oblamed in a conferred blow the bolx of metals can only be provinced when My onder hand to the open oir metals do not madily howerth I all their for in the fire The boless differ occording to the gadulity

Melato of head Willes the count with a colour or to their garmen , who the beat conduction of the Electory of do not belong to all britis some If I then white appoints we coming another there and id en dettermentigated the stall much is him a few in second on the general effects of hund and Mind allos and not later notice of ing payticules we expected y free) Tha of left solotile They and will complained a and D freed matter Their specialists opening By hand Olive College for the Cally on ed my they wentern them the who god to the fraking of security was the 196 from ther which yourselves after the offer is which yus the garden and the present or hand it has good when the in the fair of the bediens the first

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quantity of it Mat they have lost. The mone of the promerple of uglammalisty they low the mond mart they become on the wind many the moon of it they retain the neaves they approach to the Jull Dofseprion of their metallie profor tis Some hort with to madily a few don't hort with it in the amost intense heating ian offly . Some when huted emit light and keat some head without light. All metals become leavier on their conversion into Balus. Thus Mot of Lead will after baleination weigh 112 to, Some how allow butted this more on of weight to the motals attract ting the porticles of fine which they nepposed to be of on ocid nature and by this May explained the Columnation of me tell by for acids, but later expansements in Chemitry how that this inwood of weight is owing to an almost tion and boncentration of dephlogesticated six from the surrounding medicine. another Opinion that hare voiled was that this mercon of weight was owing to the loss of the \$0. I grant they do lose it but they at the same time allnost dephlogisticated oir. Is a proof that the marrow of weight is owing to dephlogestice. ted air being attracted 112 to of the Calzofhad will juld just 12 th of dephosper hicetad air or the react weight they gain in Columnation. All the saids set on the metals and their values a Solumation toking flow and forming Solts which will chrystallize these rolls on welled metallie Salts. Some metals one only divided by the seids, this is colled borromon. Lone Matols one octed

a contract of the first of their metals of that There of white of the street County brown dois! parate L foll red o win enster Moule onne reda htate gastericted 112th gill balan ibud) Inter the of X 53 0. with

uted on by all the acido others by only a few. Of the memoral seids the Murratic acts most powerfully on them now the viturolie, but the introus least of the meneral acids. Theme tals unite with acids with efferouseened or then lost do with the olhalies does not this uggest that the efferversence is owing to the same course os the Horoeseened of alholies viz the extruction offered ois. It Boles who accounted for most phoenomond by the actions speed on was of this opinion. Dellow was of a contrary. opinion and infrond the course of the effermence to de-Jud on rome from while in Almorist itsely; weither of their oping -ous howers and true Effervisioned immatals orms from the reparation of the Bo The morous in Jovor of this lost Theory It Fixed air may be extricated from the bodies with which it was windined when Confined in Close Foliels. The fo com! In uparated from metals only when in the open oir the same om alluflammables 2nd all Substances that hordwith fixed on become lighter whenor metals when columned browned heavier than before 3th Freed air will motordued metals litethe & Freed otholis Jumpetate the colver of metals from their solutions in ends but produce no Change upon them. But if one metal is used to precept tote onother the Bolse of the Irecipitant unites with the said and its to with the bolex of the preceptate which is reduced to its former metallie state. I know to this one objection willbe smade Mr Pott of Berlin tells us What upon exposing the bole of had with bhalk or Lune to the action of the find the Lead wor reduced to its me tallie state home it may be supposed

lay hred lived tol, o nece with patallic state showing to this one is a good thio they ا عم Land Land Carlotte and the and the second retal

that the Chalk or limed unparted great oir to the metal but a little Hention will show us that it is owing to a different wund Hured air or or it is by round colled thelogisticated air is come fond of to and vital oir united tog they or we shall pront himster, when the bolx of Lead and Chalk or him and mix's together and subjected to the setion of fine, the fixed six under goes a decomposition the vital air is dissipated, the of unitary with and vidues the bokk of the Lead. but At That the efferveseened of metals does not defend on fixed air DVB lock made the sollowing experiment he reproved a greantity of the Constie alkali to the vapour wining from the during its efferver cenced with ow seid and found no change produced in the alkali and that it was not mindered meld or it would have been had fixed air been discharged. But even if it had hun undered mild it would not have been a proof that the efferverience of me tols depends upon the extrese tion offered six for the for might have united with the vital air and thurs have been wonvested in to beared is before it reached the alkali It The phonomeno our panying the Efferverees Inctals our different formen thow and impanying the effervereened of alkalies. The metals effervesed differently with different ouds, they attract acids differently The vetrioler said when combined with them forms with their fo a Sulphus. The nitrous and munioting sids extricate an inflammable melstaned from the metals. No mich phoenomend seins in adding

the w with of the aread in tack air remited to get they so well who when with when the late of had and and that the or theme when and only ited to the notion of four the few in they becompare the stall view and that the of winds standard the boke of the head, but Part the ofference of metals does not defend true 3. St. Blocks and de The sollowing representation if he was a great hope of the consente a little les the vapore hatt Come there are the growing it of formers and the sound the hild and formed us changed produced in the school ! 1 1 gr pued ainst to make mind want much or is wronged their blanch has place had preed out has dischonged that even with had he h hu made you to me the or to and have been a proof that he spirous server of me had defrends infrom the atrica mpon he affered wit for the of weight how I would not n gen to what air amount there have been someted in to prod ! estlo the s Aponessin of alkalis. Meno to to afformed and defer ah M tin 's have known or in when comident the there Method for a dealf hand. The entering and remainstan netal ido Sica oly

ands to alkalies of Coleaneous Earths. What about all Invoves Mot metals hard with their of in effervesured it that not only the metal becomes heavier but the metals and aids when weighed logether one found to weigh Leons see than they did before D'Black proved this by a simple experiment, he took I half owner of Silver and I singhowners of the networs said. he mossered them to stand some time and found they attracted nothing from the oil he then end the selver into moll pieces and threw inch hatt one into an owner of nitrous said after, sometime he found the one weighed 14 grains the other 14 and i Grains heavier Man it did tufon. The rivers tohis place upon the addition of an acid toomalkali the Mali him is found to weigh one fourth life thou it did lifore. Compounds formed by a muson of saids and Metals ond in gen and called hotential bourties. Atomic Phis -loophars tell us that it is owing to the shearles of the suids oblaining momentum from the Leavy hoste. des of the metals heardong to this notion the heavest metals should give the most caustic preparetions but this is not the case or Lead gives the hast course ti omfound with an acid the it is one of the heavest ex metals. Metals may be repenated from their robitions in sieds by gentle heat by altraline Solts by sprints ? vine and by anomatri or efective oils. Metals like win upenote each other have a double alection attract

the alkation or delicanion funds . Think about aff , entitled the the mittel become to heaven four the mater and so we have weather to getter our formed to wary he have seto don they did before De the last him with this by the most affect the element he book it hall oursery their and I sin ! the we in in a file metion our accid. he willfored them to themp how were hand for and they attempted in thing party his for The set the three entitle orders who much process and they on th with half one with any owners of we there are one of the y me Lette of the winder of bridges and my principal and the who from the formers heavier the did before the representation of the representation of the second of the representation of the second of the seco rin the place sprow the modelition of an oriel to order the the 11 70 with direct formed to wright on Donnett of them when it meses In the Comparison formed by a mison of orien and Mileste une war gen und en Oled Later Kiel dans tier Alternie Philippel with wolfers till in this it is oring to the stranger of the with allaming monachina from the lang hours 5 7 4 *thou tion takes place. The bole of the precipitant units with the oxid and its to with the balk of the precipitate. alkaline Solts set but fully on the metals by an union with their Their bolus on rendered mord soluble in ouds. All Metallie lette out or raustice in proportion to the Strugth and quant tity of the vieds they contain. Neutral selts vender Man mone furthe without mexing with them. Bonax is most used for this purposed. Thur in soldering, Boroxin howder is And on the ands of the metals to be united they and their conly welled for heat applied and by being applied to each other in that state they where with firmings Bonox is meful in fusing me tals in B muchlos, The mis = faw is so bright winetimes as to right the head and thus prevents the Jusion. The Borax forms a medium which trans with the Least and this obviates this in a conveniene. It also defeatives the earthy matters come luced with the metal and thus suffers it to form on uniform majs. Will the other neutrols act in Impor tion to the strength of the acid they contain. The neutral solts formed with the introus said actor the As of the motals. Sin, 6 oppro, I now this and Regul his of antimory thrown into a enuceble withinting will produce a violent deflagnation. That thirded flagration depend on the is evident as with well not diflagnate when thrown into the crinciple alone The seid is defentioned with the of and the schooline is mins with the Golec of the metal from which it may be separated by

mo dton efter " fale gh ou 3+1 t ia nful am md 2 mit Ble

expended by the affunow of worm water. Mitals will not unite with earthy hodies in their metalia tate nor even with their own bales. Some of the bales unite with and whor Glass. Metals have but a dender attract too for inflammables. They all unit with fullhour sound know hower fully Mon others. Hen en and metal is used to repend to Sulphur Jum another. Thoir What do not unite with Julphur unite with Kepan Sulphumis. The bold us of inflormables metals all attract the for from in flowerwheles and one reduced to their metallier state. Aromatic and affortial oils and Charwal and complet for Mis huposo. This morefs is called reduction. The me tols after reduction regain their usual weight. Thursthe 112 to glead mentioned begond after viduction will weigh only 100 to sometimes not somewh from alof of a moll portion of the metal in Calemation Them is a hopelulity of communicating to metals larger prosportion of the principle of uplanmalistity than is natural to them. Most metals readily units with each other this is the foundation of a variety of unful orts. Most of the metals may be defrolved in water when uneted with an orced. A few of the metals only am depolved in wroter by the interention of fexed air and round even without this. his acts upon some hetals newting them this is owing to a guardue al uparation of the copo of an without the application of war. Chemists should throughour nather coll this bale inationed. This affords outher organist against one of

the enter and I will only to the of the method way to affection when the remeted with our or evil. I feer of the matel The form defections in wester by the interestion of found her and would aware unthout office. His see to office and hickery monthing their is owner of which of the god within a the wholes to at slamintardand threford on they will think is within the affecte wither angelia it of your wind and

tols containing fixed oir. All mostances which routain fixed air attract it instead of parting with it when exposed to the air brigin. The metals are found in the lowers of the Borth. The howledge of them wornot general till most of the other arts were found and, but the proporties of them downless wrapedly unvestigated within their few benturies that it is hard to vay whether nother and out this made the greatest Charms in the Earth. The matate and reldon found hum but mostly combined with other hodies and then called ones. They and most gregnantly combined with borth other metals arrenie sudderly hur. Sulphur hosbun almady treated of but assenier which is stilly ametal shall be treated of mmandrately before we enter on the Connolmation of harticular metals of arrenic ,

i Please what ampound in the lames of the Bouth . The handidge of them was not general things of the other Upuc the west formered and heart the heap where of them do willed Hyeres properly musestigated within their few bentines that an of the The Good to ray whether a notice and out his made the Ihrd present bloomed in the Earth. The motals and intelled 12 the formal from burner thy some living with other harders and inth the well as one They and not progress the combined in the horth other madele overence and but there telphon borband almost a of line on min which is thily which constant shall be treated of monopelastily before tit o but enter our the to orinion of hortender metals

Of arsenic Amenic is a heavy compact buttle substance of a Glafry opprovement it is found romatimes in long o and rometimes in small pieces. This small puces low their the transporency when exposed to the is. It resembles salt but deffers from it in writaining some portion of the fo I has been worked among the metals by some but it belongs to none of these blopus. It defrolves in all the mineral acids without affervercence. It diffes solves in the fixed alkalies more readily without efferverence Hmay in a red heat bu for set on a moderate heat Jumes anse which awell like Garlie then furnes may be condent ud swhich is overtain mark of our contaming armie) & and it mellines into choys tals. Itdesomposes netin ameting with its alkaline basis. It throws out finner but no de a plagnation takes & law. The arrence unites with the alkalines Bois and forms a welt which may be cong veted into hogstols and which do motollnoite the humidity of the vir. Breny other solt formed with ord une lecomes most on exposimo to oir. & produce workange on 6 om mon Palt Iwing to the Mender attraction which the men notice acid has for the fo annie has morelation to the Earth when combing with inliphur it defrolves in Lines water Phis is the foundation of a sympathetic Ink . Combined with Land it proves the Strongest flux to the most refractory. bosico. Il hor a strong attraction to the fo and of some withit a anitallie Sulvanio. Mills enguerent some of for and our or series

Ch Charme Whed gother of Holis been worked among the exclude by find of beings to mound of these of by when and or that h wi well heard be govern the or underest heart formes start awall like fooder their famus may be considered muit · 6 5/4 liva to with every the fall of the comment of the court tipy of It is abhalim town if them out from but no de a u un e Botho una of Horn and forms a collectification myn to hope tall and which do and to thought the lular 沙坎 Algor who

and it resembles organiers of anhomony hence collect me = gulus of arrenze. Is allocher itself to shelphur with which it turns reddish and it is then collect malgor a Proment. Its horrowous qualities and much dis wenched by this union with dulphus. It outs upon of miter with all the metals moreosing their funder lity and vendering them brittle hard and white Lewis found that it would must with Gold and Matine metals with which it was formarly Mought unfrops ble to write it with . Is hos a strong attraction to and turns & oppos white hardening it and Jonning withit what is called white metal. This white metal should not be used to make flefich for bulinary purposes loth & oppor and orsenicheing ax breamly hurful to the human Constitution. There on 3 Milhods of discovering the presence of orsence 120 by throwing the Substance supposed to writerin asserie whom burning bools if there is ansenic continued in it a small resombling Mad of Garlie will be perceived. I moly placing the mittamer between two Bopps or Glater, wiving and buting Them logether and When throwing them into the fire, if the bops her becomes white whom it is in Boutact with this Substance it as most of Mapressened of anenic. 3" Hupon honoring a dolution of the Substan w suffroned to contain a senic into a Solution of regetable fexed alkali, to a Volution of Blue vitiral the mixture becomes given faces ding to Berginan) it is a certain origin of the prescence of onen a knowed is used to promote the fusion of metals and os

a grant of the standard contract of the standard of dton toe that it would amonto anothe battle out the total form? with which it was formed by Mangett infrespo ud m I to make it would the or strong a throughour to on Med 7 full les in called when the minister . When welling in mayin the mater war Bountelention Plan on 3 million long season ing the purposessed or overcerist of the nation. at of George will be proceed a final of Moraming Man unto the first of the 6 ship where it is in Southest and this the teting I be answer in the arbitrary of mysitable freed alkalipto to votinged the newsterns

a solder. It defolves in 15 homes its weight of morm water and 80 times its weight of bold. This solution of arrenic in water is the foundation of a preparation of its mentioned as a febris Jugo in intermettent gevers by Stork in his Medicus. His o violent worroswe Josson to the human species and udeed to mot if not to all other ariumals. brigin. Asenice is never found frue in the white chrystols liged from we find it in the Shops. It is combined with Ears! they and metallic matters. It is got in Germany from and Wo walled Mispickel from which it is procured by being twice sullimed. The ferond Sublimation Lot osh is added Epurify it in low refrels. In the receiver it malts and res vives the forme in which we see it. as it is very volatile it uperated from me tallie onlytomes by sniple aublima tion a long offel is placed over to necessite. The Att of Assaying Metalo Doumation in the art of afraying or separating me tals seminately overice sulphus or minerals of all brinds from each other so or to determine the quantity of each contoured in an one and the profit to be derived from working them. This definition is taken from brammen des Docemastica a Book that conteins all the knowledge neufrany on this Subject. The word spay is bowed from the fruch word Epoyas. In Gormany this ord is udefendant of mining and is corried on by septemente formand In up anotion of metals from their one is affected by three methods. 1st My mechanical for in 2 nd By heat and 3 nd By hod and mixture. The first method is nord when Borthy Motters

THE REAL PROPERTY AND THE PARTY AND THE PART head to mant of word to all a star morning when el/sh our the The Markethal Low while son son son and to grant in day it this Care Can handle and annex it The M. grad to a h sho

Motter our combined with the metals. Then southy mother and valled the Motivise of the metal. The whole most is home did in a mortor and Men exposed to a Moram of water which worker away the Both and leaves the metal behind: it will muced with if the Motrice is not closely combined with the metal. The Mhum well this prough was hing. The 2 nd is used when shelp hier and livenic ow some limed with the metal (Min is welled noasting) The heat should be gentle Morain these Inlatances will amy would hortion of the Me tal over with them. The 3 is used when it is necessary to add wound other body. All the acids act on the Ones. They on wot somuch med to extract or to find outshat they cour tim. The Mature of the metal may be known first by the sun - will qualities or the bolov and toite, thus it amoved in added to a copper on it will have a greenish bolor. An ocia which should be the vegetable added to an on of Read will give the ond a neetish toste. 2nd Precipitation is sho und to know what me tal anow contains. Thus med may har entitate the me tal offer hung defeatived in on sid you alhali. By adding ag. Regio to on ond supposed to contain Gold and then odding on alkali, it very Gold in humit on our fulmenans will be precipitated. Albelies and mon und than ouids, then promote the Junior of the Box thy and Mis Allie matters, but our meouvement, or it the Ours contain Inlphon they will form Hepor Sulphuris which is of a howerful solvent for the Metals. The meletinal rolt one much used for fluxes, but they am hable to the some objections or the altholies their acid hing generally defishated

to the vitri of fife md 0/8 false of in ho hot. tues. When I was the the threath and the bound have and heat The Mature of the one that way he howard him the natro urpo. out. hold show the very tille added to our one of hind etion n Bla ond of the mate lux f hart the mai thop

Moror and Sol meroromus or the Latt of wind and except tions to the general rule, but they and too expension. Landeres or tol within supervor or a flux to them mentual Solts. This Inttance is shummed from the motow of malted Glass. It is com ford of fiftil alkale, of Common talt which is generally primet init and of a small quantity of Glass. All then Inbelances on aled fales furous. Of the & arther gruck lime is mortreed but it is hable to the same objections on the Alhalies. Len its is hot suggest to these objections. If the Infloremable Intravers Chorcool is most used to repenoute metals from their over this emports its of to the metals and them prevents ortrification bhowood is of great bonsequence to prevent bolumation; henevitis necessary to keep out the set for this purposed we thenow in common falt or Glap which float on the Surface and this difind the Metals from the action of the air. For this purpose we add what is call led the Black flux. This is composed of 2 horts of tortor and one of wetire. The nature is decomposed and united with the princip of millioni of the tartor they must be de: thelignmated before they and und. The Black flux is the hot flux for ours: the alkali Buses the Easthy and Mer talle harts and writes with the Sulphur or orseence while the formitas with the metal and twevents Columation. This defforms from the white fluxe which winite of agnol hosts of tartes and Mitin . The with in this can is entirely decomposed and the As flies off. The said is thrown off my the deflagration in hore= Thorning !

Blo while in to hours tt. 992 mplio attle stack land a must eved Juno is tro of tentigent to theme of forestering of the Sugarannolla Ldw a letter cook or madined to apmote anital for have chanced is of frad Bonneymen as the persone urai and their was in a contract to least one of the said for 2 gMas my tatil on the of the day by the jumpoister add what is call and there This is wenty would by I have to go as the igni a they are in the Albert flow in the the former the ablati frees the Goothy and Mr. "letal" harts and write the with the teller or or or or en Porc the execution in the the metal and towners to was Mindelfor from the side is glove which tothe tagenest thought of tarthy and the the meth entimely decimend and the off of the or

poring it and nothing but a hund altrali runaino. Men we nother Black flux the Justion should be made or quick or Topille Mat the So may not fly off. But as the Black the is too expensive wo make use of ond of Scome composed of Glass and a small quantity of metallie matter. The Service set or yeart. To know when the Junior is romplicate wid attend to the following broken tomes Hwo find a film between the metal and Scorice the hat is too great and when hostieles of metalis found inthe Levrice Ahn heat how not been trefficient Metato an winetimes used to upenate Sulphur and omen from each other thus wow is used to whenoto sulphis from Mor enny. It wo want to repenate welfsher from marany noasting will not do as the merenny would In volatilized with the culphus. Alhaline welt will not on they form a Hepor Sulp. which defrolves the mrung; wo find that iron attracts sulphur stron gos Man moverny doed wid thereford fut mon filings into the retorbalong with the Julphus and merenny; the marenny vises pund auto the necessary he Metal is sometimes added to the Dow of another to repe note foreign motters, for this purpose Lead is added to the ond of Silver. The lead melts and corries along with it into the hoves of the Goffel all the foreign matters Matwend mined with the Silver, this metal is some times added to another to repenate it from its one, this mercury is added to the one of Gold, it writes with the

bold ed w Ha shi & here b wit ot, the the great and then her trees your like for from ten of Alie has the real here has fer come I there thow adg ella landy Exped with the withhard tehaline withour BO righ they form a the fort look which definding the my my should am I them for I for to war Arter mill is questioner anided to the last of another to sept 1 gue has there, for this perpar I have dis added their in and it of last. The hand much the and to be winted w du mu. A Mi weener is added to the one of goods or wanter -

Gold with which it forms an amalgamo. The merenny may approvands be reported by rellemotion on elective attraction When Gold is womlined with other metals elignation is enve played which defend on the different Junbelity of the me. tels. We shall have an opportunity of explaining this ever July here after. Water is used to separate over from Their Matini is here it oct home colly of the one of metals and heated had hot, the water thrown on it will roften the Eathy matters of the inetries, the calvarious corth aspendly make ibutenate with less defeculty, this is the only way in which water outs chemically. With this we finish our mount of the Doumorian would not have you inplose that all metals nignim then openations to repeate them low and found notunally in a hum uncombined state ther rignim to be breated differently from what we have Definitions of the Metals The Imporfect on thow Metals which and distructility bythe action of fine and six The Servi Metals and not hopefred of Molliobility and The perfect Commot be shanged by the viction of fine or in. - The Metals usually described by hement one should into herful and unporfect. The unperfectory further divided into semi metals and nighte metals The remin metals and Merenny antimony Line Bermint Edolt Nichel Lederit Molybdond and Wolfram The imperfect Metals and Liad, this looker and wow In Perfect and Gold Oliver and platina. The Munice by of the whole is 16 Merenny

Ito a hit ! with toutes ltid of mong rable mdir of an w Cr onfred my A but a with (91 When derivated into ease western and the energy the same that and promoter and deter

110:1 1 ... and a. Wow I to aummonate all the facts concerning Merenny to be found in Books, I should swell then between beyond the Bounds prescribed to us. Them is no metallic dulutane which has been more worked upon than this, hartly from the great relation which it knows to the other objects of Chemistry and hartly from its being supposed to routain the Suds of Gold, hence it attracted the attention of the alchemists to whom ned on marketed for most of the preparations of it add to this its quat uniful mef in enering the veneral desease, which from the wrong management of thys wars was looked whom or mounable untill merenny was found to be its outraste This lead the Chemists to make various expressionits for funding out the purposetions which would be the sofest and modeffectual in hnoducing a uni and to this wood andeleled for the most voluable frehander Jam confident that I deffer from others in colling More: our metal river it has been greed by Mr Brand how MM (Anoun fixed it some how I soundered it os operful metal, but we should wunder bodies in the from in which they and most usually found and dis= -tinguish them or they and premuted by notion. Thus in treating of the history of Waler we consider or a fluid, its conversion into ier by weld does not involidate sex fire · lontion as flurdity is undoubtedly its natural stock Manfond rounder mer enny or a Jemi suctol. The most olvious proporties of meranny and 12 Its great wight in which it exceeds all metals scupt Gold & Matina. I'm the great fundulity and want of ductility

all the specto concerns Marka Cokorald snooth than 6 which when then the fourth pour the one 89-1 had known to the willing object of Chemistry and has living unphrend to contain the during of Gold by m ours f execution for most of the perfections of its add to the its ibin and under the coming the war and discourt which from ong management of they many wing looked af on ence ead it In land the Oleman to to week I someone or for many in oil th to predering and the himland him wy! and in Supplement in Surabaya for for there is a son wide leted for The read on level the fisher other ! bedon't that I dollar from others in solling Marco dtog . The per 2 and emethod, bush we show that wounders harder ation Hoo the hartony of Haler was considered Vola who les to

god to great Holotility bywhich it is covered unto vopor by Gold and platina and is to water or 14 to 1 Mer way much houged by surple triture especially when my visied substances and added which divide its harts mechanic ally Eg. Muchages of Gume analise Ingor honey brobs eyer Si Mercury is changed by levigation without mexture. It is how = Jondby muelage hony to when inteaded for internal une Balsoms portienlasly herpentine and much used to devide when it is to be applied externally. All the out Names out mechanically and no chemical next treve to bus pland. Byheat it will and evaporates but no obecompose how total place if the vapors and condensed they and found to before, horning. This is a method of hunifying from wetallie Mothers portrantarly. Exposed for round time to heat below the boiling hours it then ports with its to and is me. duced to a balk and rouverted into a poshling med horods and is thereford very frusperly colled mercurius kniches totus per so. It should be walled bokk of merenny or nopre up tation takes place. Merenny defolves mailly and inte matyly in the vitivolie acid when it is of wited by heat in the bold it roughlates and the result of this wombenation is a if white solt which defrolves in worm water leaving & yellow howder which is colled Jurketh Mineral The water depolies that hast of the compound which has most pline matter in it. The London dispensatory onder we to worth Trespeth amended in water untill it wows off befutty winfred, but DI Lewis forbids working it or

The state of the s my mount hanged by sough 4. Fortis Vo 160 Extra aftered extravally all the combitafred. My if Min is a method of functioning have makelle an sta a looking forest it along host in the staff which n 24 Color and wareted in the spechling and yun athy ad M Acoula he called books taken Paker Alound Mer comy shower made ? galantes and the man cot of the bala delt which defection in noon nd be Thir 2

broug all the acid will be worked away and nothing but a bolane main. The dow of this is from 2 to 8 yrains an altrali will twentitates Hunnerenny Juou the water in the form of a role. The netwous said outs more shoughly on it and joins it with vrolence and infetue only ag. Fortis will disholw an equal quantity whenthis is Inches and according to the London dishennatory. The acid allnost a blue bolor from attracting the Ao of the me & curry Honds famous Frops ordproduced by the union of the nitrous acid and morenny The following and the proportions for the preparation of Words Info. To 16 by of highly concentrated metrous acid add y by of the If Sol ammon after the effervision has coved add 40% of Morenny digent them in a yenthe heat till all the morenny is dispolved. Let it in a woll placed and a me tallie raltwill thrystolly to each 16 gg of this rolt add thing of Row water let them stand till the ralt is defeolved which will general y him 24 hours. Two Drops of Mis and tobe laken avery It hours each snot does not contain quite holf a grain Jonasuny. Marcury the ay be repended from the Mition end wither by head or by merethen Heat wapon to the Water and leaves the Met: aid and Merch which of fant oppor in the form of a yellow greyish hounder which is a highly unid balk of morenny if the heat is a little unged it himself Jand bolor and is then welled med Precepitation and Corronive merenny, this is unproperly colled preceptate os nothind militaries is added. In the London dispensatory we and ordered to add the Munatic acid which makes it Thouger and gives it a deep med bolor and a more sporkling Theonoused, It is mond o enid than when prespond from

the ac and b tata Jutatu they? mital to it for 2 17 a tah dit co the fo my. the r the networks and alone owing to the drong allraction which the munortin acid has for the maximy in the State of a Balk In the Morning borrollines of the London Dispensatory the V duli finit and blunts the commony of the nitrous said. Blots of to ow of Convosion moreney. Fixed and Volatile alholis Justate morenny from its Solution in the networks out find althalies preceptate it of a Brown Color and makes the weethtatus fuscus The volate a of a white Golor colled Ivacia totus Helbus This difference in the Color is used or a Contonion to determine the presence of fixed or volatile alhali Allthing Combinations The munication of hor mo action on mor energy in its metallie State but when in the form of a bolk will whenote it from the other muneral reids. I and odd common lett to a Polution of morenny in wither of the saids a decomp hontion takes placed and the menoration acid uniter with the marcuny. The mumatrio ind adheres to clonery to the morea my What it council be reparated by heatblant vives into the mount we in the forme of white 6 akes called the 6 orrowine Tublimate Justing. Hom is on I me that of reparating the murratic out from merenny by mentione. If & oppos felling, he degested in Mr. Tol omnow. and added to a welntion of Inthinate in Vater a mentomen is precepitation for green who which is which more unins procupitatus vinder Hencowi under stand the nature of all the Compounds of the mounting and and mor enry, the morenny must olways be in the state of a bolk buford the mer maticacid will act on it All the Combination of marcing with the Murat and and made by first definitioning it in the nitrous of introlin acids which not it of its of inducing it to the

exampledoners is graver dilated the gen ht me talles m ser thou

tate of a Gala. This & orrower dullimate when twituroted with an additional quantity of hund moranny and ofter distilled forms the more envires dulies which vises into the mower in the form of bakes and for hilder than corrosod mariny and imports no aand to the tought . An Whin more gritle in the openstwin thou the Corros dublin For all the me tallice rolts and monopowerful in proportion to the strongth and grown tity of the sinds they contain in this bow the quantity of moreuny is eneriosed consequently the said hors a small as Insportion to the quantity of the metal and is Mareford more blunted. The mercurius duling tunco an lumed forms Colonnel. Phis is mon rufe than the mar envino dulcio or it forts with amon of It from when of inflammability: all then Amponotions an oft to be rophesticated thus arrenic and rachorung Poturni are often mexed weth balonel the ferrol is dis Enguished by with y of the three tests before montioned the lostly the paralier diragreable westrich or trungent total Mot it gives when diffiched in Water Morgroof hos ht me method of someliningmer anny with the vigetable said the warmy first is calcined in the nitrous said the said is afterword, evaporated the ingetable said mitter with the Cale ofter evaporation of Lymbhmotion Jonns o hellemate like What formed with the municities a cid. The formous they are Pills one towned by uniting morning with the veget; and The fred olholies when burned with lines blood may be made white with morenny it is first columned in the siterious and had this combination has never been used in medicing

with it Mul port of July ms f. 445 thay of ed by yein Mu m

boons

medecine nor does it hopefromy peculiar virtues it arthy Substans ces in their simple state have no attraction for marany and do not with with it of we add Lune water to a Solution of 6 orrosive Sublin the Ag. Phagedenia will be formed have part of the morenry will infracipitated and part will combine with the Line avator this water is much used for cleansing foul ulers hence its mome Morenny has a great alleretion for fo at alleracts it from the lodies hence it is easy to revise for this mason by the old the mists it was rolled the proteins Metallorum for after all the change = ges is has mudar good by hood and mention it may till be redu ad to its metallic state. It miter with mond of the inflorment Was but Julphur . It writer with this when triturated with it forming & thops Musenolis. In the swodnetion of this equal parts of each and rubbed toge ther till they and of on uniform bleck bolos. It also writer with it and noblemes ford ming factitions bumabos. In the formation of this only hart of Julphur is added to yof Marcury. There is onother method of forming it desirabled by Hoffman Sulphur is dipolved in Solati old: mar curry is odded to this they one had in a Phial closely topped and shaken frequently thy affer at first black but afterwards necesse a red bolos burnalion this prepared is exactly the ramed with that Stained by Sublimation. We shall broad of the method I spenting Sulp from merany when we come to the origin of Moreny. It mutes with all the inclots but won regulus of outimony bobalt and for orenic is hor no attraction. It musts with the other metals in horportion to their fundility it unites most madely,

there a mi El Lott blath but oftenois Hurry yno tillati ed lea woln

readily with thos mat first coviert: The meeting of marenny with other metals without heat is colled amalgamation Thusle yours on of different consistence occording to the different witels contained in them the hardest metals on toffenedly it will even form on amalyama with Gold, thus when Hold ring has become to fixed on the pinger of her was who have grown Inddenly fot or not to be covily removed Tyrubbung mercury or the Muyuent award on it it will brown or trittle or to be covily broken off in lef Mon 24 hours if Much with a key. I harrow who is in the und governy for des con should be very wreful not to war gold Heeve Buttom or wortch on the Jumes of the morning Jenestone ting the Jones of the Skin much offert them. Morenny also roftens Lead on this depends the practice guildong Laborgeons sho hour moranny into a wound; in which them is a Quaden Boll which in time so After it that it may madely be token out. In by means Jon amalgama with tim that med gild morrows. The times of kid in mall plates upon the Glafs the morany is Dours on theme and unites with them: The Glop is so Bloud that the Mercury Most will not unitowith the Tim Runs of Merung may be covily reperated from all amolgons by destillation or it is volatile it flies over into the reces wand leaves the metal behind. Mercury cannot be mode soluble in water in its much that, hence the If to a mederne much by borling Jund marany withwater horno effect. But if the morning is first melled with migor or Germa onobie till it is coldinate

fler Meny Mil red it ben how ospha thing Marc & the to Me and AL Lake the whole was the

end its Globules disoppear it may be defrolved in water in a mall proportion. If this moreury ever weres worms for I home hun afried it has) it must be owing to a mull quantity of orwie bluded with it and defeatures in water. It has hem long allempted to muder mercury fixed and robble mely latte. Mr Brunn of Peters Bring neceeded in this attempt He fixed it with a degree of Bold below nothing. It Norhhavin hun raid to contain an alkalest or Miner al Dolverto by the alchamists but all their attempts to ob. tim it have been voin hither to or their humitoftes the Philosophers Stone and mobably will be so. Hunchel in his usual manner engrisons if this will defrolve every thing in Nature what refal will they find to con brigin Mercuny is found in Spain Hungary and His East Indies, Longo grantities of it on animally exported from from to Mexico to extract the Gold from its one. It is round times found immeh a state that it only requeres to be Momen Ahro Leathy to repenate it from the Earth; but motogenerally it is willimed with Sulphus in notive Emmolor From which it may be obtained by destilling it with fexed alkali Lime or iron filing, the bot to Johnich in the best, or they not only will not wombind with the & that, but also notoin the nelphur oud in unport of to & The iron Jelings should be gorosed. Merenny promoted in this monney is the prevent and is und In Memometers Barometers and other nice machine nit will not tick to the Glop. There is worth is hind of Moren !

busin with any which : t The in the Long the chem netal . or the me m two U.In a ti no nun I stime ion a m. M the party has been an account to be your first when atr o Spect ring it and is bound to make the way Luci Brison and Men meet and the olitaria the sale of the state of the sale of thon

= " walled leave moreway. Mercury which has much left of the of This should be used for medicinal purposed as it could be more early should be used for medicinal purposed as it could be more early apoloid and divided by acids. Marcuny is seldom on never come buck with any metal lead and antimoney over the only matale with which it has been found well med in the bowels of the both. The outinous appears on the nextoes of the mer my in the form of a sellicle when combined with had it may be known by the weed toste it imparts to the vigetable acid. This may served as an angument against the Alchemists who afrested that this was the only original nal metal and that all the others werd formed of this. If this worther Boso we should find it much with others in wine mall proportion but this is so ranely the in that we have no grounds to believe their Don't true on all their experiments they endiavored to mitate noture and to convert more every intofold. lito the uses of merenny in medecine it acts os as nini= vival stimulant anarcosing the gruckmet of the bis whation and the grownlity of theceantions and in actions. It outs upon the Nein bowels and Kidneys and parhenlarly on the panereas, but its action i grates on the followary Glands. Its most remorke All effects is producing the Jeanthon of Soliva and merconing it, this was bornerly thought necessary to the how kinding its salutory affects but these and more or tamely obtained if given in small doses das not to nous troburation os it is not then so middenly thrown out of in the system or eight in those Bases in which we hosticulos of

butin mbhl Hyt the form of to feller trackers int of a sed by enter and that all the others now of formed of the judge uld a or the love me who weld find it amount in stores ! e much finghanter a but this is no more med. in that and have an general to be believe their roch of all their or pour on to they contian made it has ed ibt in of Ident ad ib uph the offeeth is producing the processor of he direct extensing its saturally affect find the some int of by thetained if given in anoll does day not be now done anish is not then so makenly thrown wtba

flow

by with to fooden of folivation. Howar formally suployed In outment or vapor there we thous are still continued by some but set a mal exhabitions one at freient more gener rolly methoteted in the place of these. In the farmer method the following is in its Jovos it is not no aft to gripe and mu off by the bowels I bis Whom for more particulosly Just or when wo with to refroim from this avacuation g Preparations of Mercury The first of these mentioned in the table on the proposations Homed by triture when the merenny is only divided He should always devide or tritumist le ford we exhibit it. The voteres of Brude mar uny are not occurately or virtained. D'Dovers facts howo not deles mened rique los prochoners to employ it. When given in a wede tote it hopes emmadrately throthe howels. Some have uppord it to be thouged by the acid of the stowach but ather is of a vegetable nature it will not out infrom the Itill colemed. When moremy appears to be retained I would either nepposed that it wo sweakly unpringnoted with the of and Mistit was then acted on by An ocid in the Stomach and absorbed into the Lysten as that it was no deveded by the hile mucus and other hand intestines that when discharged it would not be pascewed. The first openation on mercury is its surefree tion this is done by distilling it with won filings which mount bolumation or the formation of a divition (pellicle &

24 cms mehr are out the over oney Wata ulgar ul 72 mun and the appropriate that the ord in the Mount of and absorbed theto that it was so dearded by the betimere hreps quoin of the I down it is and into Kill of the the mnos he John by tosters the

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filliele. The Mercury Mus printied is not so proportor for titure. When it is weakly impregnated with the for it is more sonly divided and is called Lean Merenry. In the plaistors mentioned in the of labour morenny is the ombined with the common ingredients of planters Inthis state it is employed for defensing tumors, here Hu maxenry is so entangled What it commodentes the peres: By writing the har spinotion and relaxing the then planstons may be of service and annues the same purpose as many other. I have and muth two boses and with but two in which it Solevated. The Inquent. mere enters the pores and that this may more certainly take place the Skin should be previously worked with worm Water. The turpentine which is used to hill it or to is world is added in often the volgarly called) before the Hogs lord is added in often the hutful. The turpantino detrocts from the virtues of the mutment by butting and wortstring the Skin. It is hosten borly hurtful when the outrement is used or an injection in the veneral diseased. It often hard mereoses thering Hommotion. It is now better proposed for with honey all Fat & This is more ledrons but it and by viwords wo for the twoulde of making of it in this manner it inow hrepored in the London Hospitals. The Pells riguin no explanation. & Merenvial preparation called Thurses Solution has lately entered into Misceine when the fin Anded by tosturating it with Gum arabic. Mr Plenk was no Chement Months folice; after toying many Muchages animal and vigit table he found it winted but with from avatic. The most one the gu his ovalic had on attraction for the marcing, buthe was un untile

Les or were in a solven wheat that it is in a in the Springrose or diang they show Bought. Hand & with hard two on nothing in entainly take & land the show who we let be proven & and bton foun woller ell is more hitler purposes aden of mails 7 9 40 mplent prhis

wrong for the merenny wor only divided and no huncial min ture takes place. The Word attraction ought not to be used except when head or the addition of third Substance is necessary to duomposition this is not the bow with Mr Plunks Solution, a my mound wable mark part of the mercury is calcined by tri ture the greatest part can be recovered by evaporation or standing bowers the small quantity of the meseury calcined is svery eferceous when it meets with the said of the Stomack which united with iband forms a vigetable borrosive Sullunate and vorily ill whoater. The Jamous Heyrers Pills on made by tritune ting morenny with vinegas till the mercury is viduced to a colde when the more energy writes with the Ningor. When I shook quercing being triturated to a bola Jam confedent deon & twodict an afestion of Bookhove's. He fut round moreuny is . Phial and for level it to the Soils of a wind Mill and uf find it to revolved 14 years, no Change however took plant and he found seance any of it relemmed, but this was owing in tothe Invollene of the Phial, or the marenry would hand no intertine and tion and it mulled against a polished me fore. My Sonders hut a hound of merenny in on ivon box with some mails and forbured it to a walk wheel and in a Journey of 400 Miles coloured Ziji in a grey howder. The Mr Plenk was not wight in his theory we and obeyed thin for his discovery of a new method of geving mercuy which novely rationates and is reldom allended with the nonvences of the common perforations. It is of un to multiply the nego and muld preparations of mercunging and to allernate them often Habit will remoles the systems

buch id the white wdests Miba Who who nd to allerinate them of the Balis male it

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to others: there some will have the rolution of borrosier sublimate letter than any other perponation whilst others will brow the Solution from which all except this. This may teach us how meepony it is to vary our medicines and how we may insproved this vistues by giving one moderine of a Glof at a time and when the Normach has become muntle to their new may in another of the ramed blass but of this mon heretter, when wo would to speak of the romposition of medecines. The Mers wine Souharothis and Alcolization contain merenrydi, rded only and not calcured. They are bland and the Frugt huperoted in sufficient quantity to neutrolizer the oborses but barth which adheres to the merenny, it writes with this abordent & orths. The next blog of mercurial preparations his melude thoso in which the masserry columned by heat. Then the and the same nature of those colained by tritime and hours the rand medical recordings and their action depends on their in meeting with on said in the stomach. When they much with this said they proved smetric purgative & suconding tother dodin which they on given. They defter only in their man me offreparation. The next and those our lined with mlphur or bemalios autimonicand & Moops Menerolis little and be raid about then proponetions the Julphur destroys the activity of the marning enters into Mix two with it and forms a lestinen quid which hofself the vis = tun of weither: wer need nother merpused at their from what whow were of the effects of sulphus whow ormer Then horts of Sulphin added to one of orserie deprine it of tige rumong outinely and it may then be taken without homes

lich of 1thy th hund peater or Atheren or burnales an homonic and Elleste Mannolis Little wind to east & others others pring or which the equilibre, not great noth medical at this from what of sulphin added to and of orace is a mong sectionly and to may then le taken without ton

The Ellnops Musual is an ingredient in the believoted worm forder which was employed by Dr De Witt of Germantown! Inay it is only on ingredient bream the Bois is Beors fort it which all the other virtues depend the Elhops only revent to whor and disquisethis tumahor is or mart or the Ellings minerals. The burnalos Antimonicand factitions Bin nator one equally mast with the native The next blap is when the merenny is rendered feline by the side Why the introdic said these on the Emet mas Ifler. Myeur prilip flow. and Turpith meneral. This los of mede ince is used or an emeti in the venerel derived butity inf queater consequence in the first slage of the releases conses thered. In this east it often gives unmoderate which and brings the der onder to a Bresis. It Munulates and ascitis thisis whit of the thouset into action and courses them to hour forthet many With negand to the preparation of morenny with the this two or men atri airds we need ray but little they one unful when give internally in Luce veneral or ond howers to plenhanotics in removing Jungons accresqueles from antimony

her only on inquiding brains the Bours is Georg food went black in which the was many is mendered falined by the by the selection of a stand our could have a should be to the the om Levery flow and harfield mininger This has dans and ourse or in everth in the version of durance but of 19 house an average of the state of the stat mtle hea # oit does upon merenny when a little colained but the 1th 4 and of instance in a lond trudo

Unturnony This metal has been or much wrought apon by the Chemistr or Mer. wydency Mentions 200 preparations however most of their one estrifting or very much resembling Each other Mat they do not demind to be laken notice of. Unknowy is a twofold styrett of Chemistry in its Niguline form and when combined with shelphur in Emedi butimeny. It oblams the moune of vigulus from its being rail austed, and found in the Bollow of the Concelle in the form Johttle brown after the defestion of foreign matters. It is Light seme metal of a rigular Structure counting of lamely la disposed in a negular form. Bis distitute of ductility but may bearily how dored. Its specific Gravity is to that of water or 461 Hmay be fresed in a vid heat, if Mu heat is more moderate it omwhere if the vapors and wriftened they over found to be a Balk of outinous. In a gentle head it becomes a white bala. If the Leavis roused ofter itis slimed it may be fund into a yellow Glafs. The Vitowhie and och whom it that the acid must be highly concentrated. The vapors whish in you niceing those and of a drong offension smell. They and would hond of the fo of the Regulus and of the Patriolicacid and anothers ford a tomo Sulphino. This is one of those metals that attracts the Atriolic aird stronger than the. The Mhom sind does not form a chemical mextiene with it hut corrodes it and after handing 10 or he hours who we converte it into a balk, the seid always ocapions a bled bolor and amits trong red fines which and occasioned by the network a sid upil wating the fo from the outinion. The Mhere atri Acid outs whom it only when relevined, it is therefore merefrong to add notions wind to detach the of this forms with the Miration and an ag. rigio which is the only proper Solvent of Rigin by of antimory and in this respect it has the honor of being

in and when windered with full for which a war a soften the defendance of foreign Englis uni millal of a regular stance trens hourdoned. He if in for formely in the three to the comments now maybe from it in a med but of it then head in lud for by can Med a of with turn for currer ! lly um of the Othershie aris stronger Thou there, but were des in some after charidary ! I will have before attracti the said always in agrees a the local the ver ist to detack though their joines with

or a footing with wan gold itself. There is onother way by which the mumatic acid may be combined with rigulus of autimory ly making them meet in day funds viz by mixing Corrosivo Sullimote and autimory well howdered together and ditilling Munin a gentle head. The Water with which the murration acid islways rombined attracts it so strongly that it comed out with full force on other bodies. The municitie aid runs with to antimorny into the nech of the receiver visculling a mix turd of drow and water. The sind this windered with regular Jantimony is called butter of autimony. The color of the nor urgin revived by the of the nighter of outinous and offer in affind form in the retort. This Britter of out mony is excel udingly caustic and vomits and purges most violently If disheled a Jewound time it becomes more fluid wither from josting with a portion of the metal or from attracting mortune from the oir which is contouned in the reful. When wire becomes fluid by being exposed to the out. It is querally un in a fluid form in the Shops of we add this thous said or water it will be decomposed. If a small quantity of water be added to butter of outerway the autimony will be precupitated in the form of a howder owing to the vator othereting the said this howder is collect mercuring vita Mes very improporty or it does not contain a portule Imerenny and is rovery aired that it might with more justice be collect mer aurius mostis. It may be undered mild by working in water. In odding introus and to Butter of antimory a slight affer renew will lake plan and Bezons Minaral will be precipitated. All the Sigetable

act up theton . The from the melost of the Beatley of an remoter and many the hand have give more Lithral my un lingri theret a at an emotion of the decidence to be to special notes I mantely of another be added and to builting of sunte donfe ugani in they was Minamale, will be proceed to to feel

suds act upon antimony in its metallic state. Egnal ports of toral to and vigulus of outinous in fine powder are boiled till Mintors to is noturated the volution is bramed and set to chrystally this it the tortor emetric It Nould be chrystallized in Silver reful. " wow and wopper will decompose it and presentate the outing The Alhalime ralts do not est upon automony when it is fud from its Sulphur. If one hort of within and two of the timony be deflograted logethy it is collect the Berufia du tmorin. The Regularia this Bord's orduced to a bolk by to said of the nature. His walled bornfor from its reserves Have to white Lead bathy Bodies how no oction on antimory. Of the In flammables Sulphers is whaterwort troughy attracts it. I nelphus hanges its bolor and textien Julphus is rometimes found would withit with Bovels of the court of the glop of entimony in highly concentrated vegetableacid obtained from Veroligin and afterwands dish lling Brith somuch Vos will blint and destroy the ocid. This is a rope proposed: tion, the spirit of wind infronts so much of fo to the outer mony or to render it mild . It is used by some or a hower ful Andorific the Germons and parhentarly sound gib Regulus of autimorey octs on most of the metals. Margrad how tangent us a me thod of combining it with Mescung but the process its ledious and offer all admits of no offlices tion in medicine or the orts. It is in while in water in its melallice that. Bis marely Journa in a hum that We have on account of its being formed in the lost Bentuny in Mohlberg in Sweden in a hund state. It is generally mind mineralzed and combined with rulphus and writines

Wetur The seather at the well their retreament and not to charge lothing the texter and the state of all or the place of in deliver again the decolphisms is the of the first and there against a supply grated to get they their on the of the Benefit he The Might bearing their Bois in oridinace it to a Kaller to doffer of the motore. His welled borney for prover it insering ola, 1 to white had boothy Bodies how a we thing on med a of the In Hairman that hather is unlast most and the though it of welphow who may in the looker and townsome tries found were lined in this Bord alia Fla ed Mes hapkly war untrated ongstable ordered obtains the may and afterwands derly Charge broth is much that gid ar they we the remain or it mercled . After me and by second is on the an and himlandy found glas metri In neces y waits

and Mixture on the the of antimony or many of the proposations depends on a greater or hilp rependation of its Inthur. The Over of artimory is block and dirty, the Jungers when handled it is come Jour slong weedle like Strice and is very hand and britth, by heat the Sulphers and orsenie are defre poted and the metal is reduced to alk. This is more or left a mid or it is more or left columed From this wed may reconcile a numing contradiction in the write two of Hoffman and Boerhave. Boffman ofests What this is on mart bola, Boerhave rays that it is and service and dongerous Substance and forbids it to be given internally. His probable that in there care the antimony was differently bolained. If the heatis Justher unged the Glafof autimony is obtained. There is a prepara ton colled Flores antemonic which is nothing hat the one mlimed. Mexture is generally would with heat to be hemete the negular from its over all the Muneral acids and gon region and used to defrolive it and thus separate is from the matters with which it is combined. It is fureif itsted and afterward vivived by melting with some inflammer Hemotter. Andrivary may be rombined withmensetic oud by a double election attraction Corrosive Subin and the One of anhony ove hud loge ther into a retain The Mumotic said unites with the negulars and virus with Sinto the received in the Form of Butter afourtemony The Morning writer with the Inthus and forms Cumabos which from the Mann of Jarchoning it is called bin whose antimonic hub un properly as there is not a hartill of outenought. The alkaline Salts and unprofes ymed to uponate sulphur de from kig outure. or they

a specific so the experietion of the dubling I'm line all the of and the figs the fire good which then died of many and amismore was deformed and their matter to is necessary his is mirrister life a wish or this receive or left columns of theleg Ther (the bh tions is given willy come larger of will like to be seen inquities from the over the the the therewall and sing used to defected to and their defender it for taufli morning by million he gree Deros of the board will at you have the love of continuous our her I loge they will a cold note Il Mountain said amilion the the regular and insernally but find the necessary on the Form of the the sylventrusing The y writer and the obligation and given burnely Boerh went the from the Mours of preparing it is alled fine morning it The allaham talk a feel to work to the land the first

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omlind with the chilp hier forming Hepor Julphunis which dif sower the Migulus. If their compound is defollowed in water and the Mitrom seid added to it a bulphur is precipitated of a golden bolor hence colled bulphus ourotum antimow. If the one of lubinony is horled in a Welition folksline Salt and then trained a how dre milioides called Kermer meneral. If the Mutral with nitre is the cheif which octs whom outinous Bythin the Regular is reperoted from the Julphur Runchel directs 1 hort of wither to 16 of antimony, the antimony should first be no oted and malled with Charwal. There is onother Melhod. The niguelin insepenated by adding 12 parts of outin 60 Mitre and 3 of tartor together or by throwing agnol port fortimony and black fluxinto a ved hot ornable. Hore the fo of the Charval hunders it from calaining and the Hope Julphumin in in rosmall a quantity that it comes och on the Negulus, they should be thrown in gently to prevent too volunt a deflagmation. After they are melted they should be houred out into another borner ble the hottom of which thould be greated, the Bottom of the Cornectle should be much now and then to make the nighting sulinde tother Bottom. His by deflaynating equal portion meter and ontenony to gether that we get the Browns Metallorum when but a small frast of the unknowny is calcined, this mit and hurges news Eviolathy. The Emelieum Mite Boethavir by deflagnoting two hosts of mitmond one of antimony, in this wow all the help hur is defertate and more of the regulars is columned herewitis much this melder and rofer Thom the Growns. Deaphoretic Antenna vbolk onlinoin in hvotorid by deflagrating hord

yted in Mili the ory nd the and of meters is to deminate to with B felly an rate in T place the pet tot fat land gant woforth the able malhi Ulfha may " · Mers Kwith ruft vastno allow

port of outernous with 3 of Mitin. The As is deficileted and the metal entirely columned during the openation. The nitre by writing with the vitriolie acid of the wellhour inverted into a vitriolated tartor. It is writing, valled Mit Town Stilistien. Weither of these performations hoff any of the virtues of the antimony. The Panacia Mercuri alio and De Jonnes , Powder on made by defloqueting with Briede automony. In James's howdes them infroholly an addition of mercury. Of the Easthy bodies Lund water in the only body that outs upon antimony: if the horice of antimoury on defeatured in Limit water a Golden helphon of only many be preceptated number to that from the abhalies. anhimony has no attraction form = Hammable bodies owing to its hung almosty naturated ith Sulphus. There is a profranction collect the tiretien fortimeny which was thought to be a solution of its ord in Meriti of wine. But in this wir it is befond muxed with an altreli Min forms with the Sulphurs of Alpor hulphunis which is deproliced in the Vond the organice Port vumains sentouched. All the metals except Gold oct on the Degules of autimony. They all have a stronger attraction for the helphur the this if may be allowed the expression with constant Bed fellow inthe howell of the earth. Inon is most generally employed and is the best it attracts the dulphus most and is them alled Reg. antim. mortiel. Journalis when tin is a suployed and so of the vest. The one of submony is in =

of gether waters of the auchinson you the Paragraph Am He and It flowers . Howder and went by defle and the west of the sounds for the state of the and a man of it guites no the country have the took on the inferen White 2 Mar neuted In the co in have 1 utellie govertal forester when

Line This is of a whitish bolor bordering on blu I which makes it some thing mulling autimony. Ito specific Growity to that of water is the rain. nontimony. When fully harged with the fo it has some digree. ganetility It is fused before it buoms red hot. If the Least is urged byoud this it vises in funes and forms the flowers of Line and which are the balk not totally deprived of the of This formerful Juflammability abounds in Zin and is not sorily separated from it. The vitriolic ocid when diluted with on equal quantity Jurater unites with and depolves it intimately with the operation gleat. White vitiral is a chrystolline Talt composed of withing and and Line. The nitures and vitriolie acids a Don it with voleno. Upon adoling the networs acid to Zine red funces orderbruated which are very inflaminable and will asplode when a would is applied to them. This explosion depends on those in the refeel bring medderly rendered alostic. The of which is hore axtracated from the Line is how united with some matallie soline or watery metand or it is nothing flammable in a reparate state The vegetable a sid defroher iband gives a weetich took The orior of wind with Juice forms a true Phospharus. The light depends on & repera tion of the fo of the Line. The Alkaline Solts have no ac of tion whom Lim. Meter deflagnatur violently with it tear ing from it its frince for of inflammialiste by Mitre count browlined autimetily with it on account of its taking for tal ammoniae maybe decomposed by destillations with Line the murrater and muster with the Line and the volatile alhali viscs into the macions of the Eartho it

to the the defended of the of this forms den the uful u fortus end bot Shoreins brue ulti an the Bouch dies 16 fued a and on whit Ewds of y Si care too

wites with Clays forming Lapis & clamenonis. I hos on attraction for the of when in its columned State. It was long frollen among the chements to bind & me that of ordneing the flow ers of Line Margraaf has tought in that the flow en of Line may be reduced to their metallie state by destit. lation with 1/8 of bharcost or Lainf Block in close vefiels Hwill not do in open repels or the Line is depelated in whom or fort or it is revived. It will not units with Julphus hence this may be und to reporate it from other netallie metances particularly Lead. It unites with all the metal, exuft Bushouth and Michel. With this it form poster. The printers types and anade of Quad with some Time Whorden them. The Sheif us of Line in making Brops; this useful me tallie metatance which not only profuges the bolor but many of the properties of Gold is composed of In and bopper. His Mus made. The one of Zind is anced with Chorwal dust and melled with mall perces of bother him a Bruen ble. The Line is how exposed to an interior hat melts and is concerted into vapor, it Men unites with the Copper. The Charcoal server to impost the fo Luc is unsoluble in States ligin. Live in found in all parts of Europe and in the Evil Indies. It is rometimes found in the State of a balk. It is winderied with bulkhers and is then walled Mork Lead Ont or Black fack. His most frequently found winhered with blay forming lapir balanemowns, for the Methods of separating it ow themseal Books postet cularly Neumain Bismuth

Later Margarias Land the territary of the of the second of the work 1 White eft 19th forthinder His romationer forming in the State of I'm friedmed with helphing and is then willed Months Aby for an Black for Collinson of programme the forms der policies with bling pointing lope balances with flag Methods of sifes along it out Theore Hooks host Freekt Districtly

Bismuth Burnth or I'm Glass is a sparkling white I sure metal, hand and morans extreamly brittle and may viadily be videred to office fooder. Its specific Gravity to water is or 10 to 1. It malt like Lead Inform it arriver at a red heat and is then less or orenties less How than whou would, by a greater heat it will be turned into . Bola and if the Leat be further verged in to a glof (like the glof) intimony) which is much und to fuse the me tols. The Atriolic mid ofested by an interese head corroder it but cainsofthe raid to defrolive it. The Mitroin a cid is its propose Solvent. It units with it with violent efferverenew and emits strong clostic vopos tudolution after rome time becomes transparent from which it may be preceptated by an Alhali Vor water in the form of a white bolk, it is then colled Marish of Good white. The ladissometimes use it as a faint to give a white bolor to the Men, but it is a dangerous application bring very myunon to the narvous System and is attended with this inconveni and that after round time it gives the Skin a desagrable july low bolor. It gives a black bolor to the hair if mulbed one's frigmently. A Sympatheticink may be made by defoling himster in networks and to their adding a solution Journon intly for the particular process no Macquers Elements of Chemistry article Bishueth firoup Dus Proctice) Then we with with this no Chanacters oppose but upon holding it to the few they are perfectly ligible and of a beaut tful green bolor. The mematic acid does not act on Ber. with except when werehined in a corrosion chillment with merenny. The vigetable and depolies it stowly. The Meline dothe have no action whom it . The bolk is a powerful

1 Bole i totu

powerful flux to all Earthy Substances. Of the inflammables it winter with Sulphur when coloured especially, when burneth horlost Il to fruit of inflammability and is united to Sulphur presembles on Ovo: It unites with all the metals except bololt and Line. Two parts of Lead on of Burneth and ten Just every when viribled over any Wefiels give them when tiful nilver oppositioned . It in ind or Zine to on month hordness of Tim and Lead hen within unid in making how. to and fronters types. It is unsolublin Water. His found in many parts of Europeros in Commoll in England and Rohemia. The Method of repenating the Julphur from this metal is by means of heat. bolott is of a whitish grey color, hard and brittle and is fexed in the fire. It is calcured by heat and its boln is of a black bolor Ill the memoral seids set upon it and extract a red tructure from it. Bobolt defrolved in the Nitrous aid with the addi tion of a solution of bournon Solt forms a sympathetic wh. It is by mexing a vortain quantity of the bole of 60 2 bolt with Sand and pot ash that most is formed. One hart of Bole of Bobalt, with 2,3 or 4 forth of Luarty maker Laffre De Laffre is of a brankful blue Bolor and inned to tinge Glafor posulain. It has a strong at. traction for the of and when combined with it formes mord metallie metatane which is welled regules of Vobalt. It is found wouldwed with Sulphus in the Bows. de of the Earth. It has on attraction to all the Metals weekt merenny and Bimunth. It is mobilish in Water His found cheefly in Laxory from which it is never exper

diga which by thur 4 thoras mapler faires ed date of Endatoformeth 2,3 or it family of the that frohis to go a to spend of the level of the three of from the time of fraging to the second second to the secon the day so the same of the same of the same of the same " found their figure Lacoury from which it is never onget

to but in the State of Smalt. It is found I tim the State of a Coln Indwith the One of ar, wie 3rd with Iron and arrence in a Metable state 4th with ivon and rulphus, lostly with Sulphus the wir and wow. The Sulphier is defented by heat this some times blinded with the Over of Bishunth. Muhelis of a whitish Color undering to red of a which texture and Mining whend broken, it is fixed in the fire and converted by heatinto a green bala not funble and used to bolor Glass hown or red. It specific Gravity to Water is on 8 ½ to 1. It. is definited by all the Mineral acids and gives to there a green bolor. The precepitate from the seids is solublin Sp. Sol humon. Enhich it gives a blud bolor: it has little at traction for & arthe but attracts Sulphur greedily, humili might be used to repenate Lulphus from the other metals hor. tunlarly felver. It is called Michel from the word While hans from its giving a green bolor to the muneral acids il wor thought to posite inforced to writein copper but was afterwards found not to contain a porticle of it Hwo dissovered in the year 1951 by Milononstedt. ound indefferent states or in a like bolk; with

state of the word and half have levely north halphan all how as depopleted by head the donated Who take MILEREE vit 8d medalhoper from a 18 ha as so as 8 h de feel willed it wholes the migration of the star Miles on hed we apolin hard attract to the follow growth by harast Lucia with to represent the fire from the with the than the feeling please, it is called the shell former the wood the ground o drewn below to the remained - Hulth I suture is in the your 1784 by Melsonsteader are a film bolice toolis a

We are west to treat of the simple or Imperfect metals and first of This is remarkable for its mallealility and Ductility. It lose its brighnos shu exposed to the six and becomes black or green. Its specific growity is to was to so It to 1. Lead melts in a gentle heat: if the heat be carried further it is columned We know when it is beginning to be columned by a fellile, offering on its Surface. If offer its fusion the heat is enercosed it dange it bolor and becomes first of an orange bolor this is called Ithange and is much valued by the pointers. The Chemist for = morly colled it Lythorgerium Argente or ouri occording or it was for polar or deeper yellow. Then terms werd first introducary when head was supposed to contain Gold they and now obsolete & would never be used or it is found not to contain a pathely either after this it changes ved called Minimo or Mosticot by the pointers had in order to produced this red rolar the flamed must come in the boutout with its surface and the heat below went be very in 20 turd under their inthe bord to will not appear vied. The headshould the She too interne and we should every now and then store the by had to prevent its vitrification. The vituolie acid so vo des it so or to forms a Sulf hus with d the The Melvom seid depolves if delited with an egnal mantity of water. The Munistriacid also actrupou it and worm woder it into a white howder, it added to it it a flued state If me the ouid is previously mixed with morning in Corrowine to when at it writes entimately with the Lead: the Lead way show intunately united with the municitie and by distillates ling it with see our monion if the this compound be melted then it is collect plumbum borneum. The vigetable acid times ects on it but slowly when it is in a metallie state but

osho! Shead Hans in totur alor on desper yellows (line) terms were plant interestination nd infor the said or about the said of the said the said of the said of the said of bonot a honger and eated themesine or therefort by the pointing site who lett you of the in the love to transfer wit afferen wat. The head of many info bla Could some your sound there they lead in j they there in your word through more word head a 40 who and the the commencer of the this compround to make alles Bluinbrows bernicion He mystallianis on to be of showed where it is a most to the hast

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monorapidly when it is in the that of a bole and then objecting it intimately to emifice is formed by exprosing their plates of lead Letter vapor of venegar and suffering them to be corroded a white howder forms on their nerface which folls off upon Luding them Jackarum Saturni is made by boiling the loke of head with vurgor till Chrystals oppear. The Souther themis may be decomposed by alkalies or fere, where the said may be oblamed by heatin a very concentrated Ltate. An arduit is pirit in formed from the union of the As and the said of the when toturni. The outons acid hor a strong attraction for the A and carries it over with it. The orderet spirit have or in every ther bord is formed of an octour sound the fo and water. The le holies do not disholved Lead. Of the Mentral Solts nature is the heif which outs whom Lead it defla groter with it go and colorines it, I bood told you that the outour acid The bolse of Read unite. with most of the bothy lodies and converts them into glofo, to does not vitrify blay herie blay refels should be used to wonfind the glaf of Lead in fusion 6 ommon 6 muchbles which generally outoin Sand will not do or the will be thingied. When wited with flint it forms white Glass which is romuch used and valued. It is this which we generally employ for chemis al vefels; there and sometimes viduced whom exposed to on interne Least with Charcool. It's offen viduced by thermous to blowers when it loucher the bollow of the Candle. We that hould never use vetort but meh or are very clear when we are going to destill oily Substances. Porter own their beautis ful opporance to the Bola of Lead which is mixed with their thord expecially which resemble dramonds. They and sometimes to pllow like the topog and of this the yellow brade and generally

it the and lo with surgest till Charpleto of her muy ac amisoned by alleaner or fire that to formed given they encious gitter of and the send Which le ha Memeri ined the med wi tule i the fluid it for mankets glass where with a Forblow anoth kince & tim it; come uses vetorte list mile o while any to dustill vily o'n botheries . Por to the Color of head is y or th then Lee were like the toping and of this the selling STATE PROPERTY

made. The yellow green and block bolor of the Earthered word is owing to the bole of lead which is mused with water and vulbed over them before they are bothed this melts with the head and mostor notes with the vefiels. This Glazing or it is colled in Soluble in saids Luce we should be cautions not to me any thing sous which hustood long in corthen vefiels. Jewenel in flammably mblances oct on Lead. The unethous oils unite with its boles forming the common placesters. The attraction of the bale of Lead to the princip. of englammal. in regreat that Hofers (which own Meis Bolor to their Bola or and lead) moughe reduced by first greating them and thenge burning themanith boudle. Lead hor o shong attroction to full hur in its metalle and callement state it unites withit without smotion had in the volcined State has so great an attraction to Sulphur, but when and with it no fine confinelt it. When lead is revived from its also it appears block. This leads to the discovery of a symme pettetie uk. Sulphus in its mufle state is not volotile but when unlined with an alkaline Salt or orence in the form of the for Alphoris or or furnant it is very volo tile I wo don't a herief Hafer with a welition of Sachorum Saturni in water and hold it over the fumes of Bepor Sulphurois or orfument Mupoper will turn block thro 100 leaves of a Book. This property of Lead unvers another purpose livides amusing us, it discovers tous the provence of Lead in wine which is were times furt in to writer it if the wind writering horhele of Lead it be omes turbed immediately whom adding a wolntion of the por Mhunis or Orpinant owing to the strong attraction which the Lead how to the of From what we have roud well may understand how it is that Hepor Sulphuris Juriford

Elitmen mistra nd per wer trobed immediately whom adding a robule to of fee Mound or Enforment money to the stending attraction that the lead hoo to the form whater how we towder. may understooned those to be of thepor duly huma for

with a vigetable Alhali forms vitivolated tartar and that prepared with lime Selevates from the to of the Sulphus escaping and leaving the vitorolic and behind which unites with the Mkeli of line boundaring the strong attraction that the Colcer of Lead how for the for would it not be letter for the pointers to mix up their bolors from its volus with water untrad of Al. Lead converte metallie substances into Scorios; of the un of head in purifying blever me shall speake harifter. Lad will notweith with inow and when melled to gether they flow, in different ports. brigin. It is found find in the state of a bolz 2 I with arreview and who were earth 300 with sulphur 4 th with Sulphus and Alver 5th with Sulphur mon and Silves and lostly with Sulphur butinony and Slover. It is reparated from its overby melting with the block flux or rome unflammable motherees, it is Mouned from chever and Bop'er from by elignotion. It is found in almost every country in the World. This is a white felver wloved me tal melostic and not so a worous capable of great duetility or nother externilility. Its spece who Gravity is to water or of to I it being the lightest of all the of ningle metals. It metts and ex a red heat, in the intermediit state between Solutity and fluidity it is extreamly brittle and when struck with on Hounines may be broken into a thousand perces, if housed into a mostor and rubbed ship in a state of fusion it gives us the pulo. Stammi. If the head is unged beyond the malling point a calk is formed, this cold is white howder which cound be witnessed by the most interest hat or most howerful fluxes we are acquainted with. Mils which and when highly concentrated and oferted by heath

the amount of the former with the time of the think and wang the steering attraction that the Boller of La for the of monder to mother better for the pointers to 1 of the it is in the metallic dulitances into horrow, of the in hursfying Bus moshall headen for had a food in the state of a laber 2 th with arrein what a In Tim deflaquates with nitre and in coloned state lateren doluty and plueduly it is active storeth with on Tourney may be broken into as a person of pound into a simple oud restlet hill feel begoing the malling fourt a care in formered. The the houses which commother who be from it will with and are armosp formerfore of covered and answering and down and Months out where lings of wareautistich and aparted by heart

woodes it writing with its of and this forming a true Sulpher the nitrous acid acts on its with violence tearing from itits Atte tim should be added in mall Leves to frevent too great on efferoescence. This foliation is not permanent the Mitrous oud aposite part of the ten probably from being weakened by the enote of the fo it is used by the Dyers to make bocheneal gobright med, The mumatic outsupon it much in the source way or upon rigulus of autimony and defealure it slowly, when applied to it in Jumes by distilling it with double its quantity of borrower hellmate it mitter with it intimately and the Lub = Nane formed from the manner of its preparation is colled Butter of him this emits strong fumes in the six and hence for its uventor is called Lequor Jumans Liberre. Agna Rigia apolies it intermetely. The orgetable acids even the weakers have, but found by Margrant to oct on tim. This refules the common opinion that refrels that are turned are not acted on by inde, but a more necessary caution arises from coundary hot no metal attracts orserie more than this does and that the puresties over of this contain assence this was first froud by Mr Gooffroi and time by Marguraf. The enachling worn whereifor hunding tim plates is owing to the armin they within . Allealine rolts have no oction on tim. Tim hos a stens distroction to boothy bodies. Enamel is formed from a mine of two of time and glass. It readily with sulphus. It has a strong attraction to all the metals destroying their melles lity, thus the mollest quantity of the farmer of this woming in wontest with gold or Silver rend on them brittle and unfit for und. It is Mus und to give hand nef and closticity to many of the Metals in hunders Brook and when merced with it is rolled Bell

og dere k Hen hand ned and abortenty to many of the Mitte Grand Mary and Mericanian with it is not

bannow. The is the Bosis of Pewter. When amalgamated with War any Horme a fail for looking Glapes. When this amalyamis sublimed with Sulphur and Sol annou. it forms aurum massicum which is much valued by the painters. He arevern moraram " found at the Bottom of the vefiel after molemation. I'm and had valuned and united with lil make Putty. The Solder moderne of by the Timmen is a compose tion of Lead and graned tim. The Ends of the substance to be roldered are sprunkled with verin and a red hot won is applied to their which welt the blder and they are joined together. I won and I'm madely much The Utenils we wall this and only their mon plates furt unto melted the and the Drops wered on them and owing to the melled tim running off. The funor of the metals is an arrand by being united with time of Lead Bermeth and the and mind together the compound meltin a very low degree of heat Homberg derected equal parts of each to be employed. But whose howton improved it much by and aring I harts That 3 of The and 5 of Benneth to be und for this went found. This melts in the orderwany heat of borling Water. It may be used in the noom of the common wand hath; it does not evaporate like merenny bis unolus Min Water. longin! Tim is found with Sulphers and assence or with iron and Sulphur in what we well black lead but it is never found purd. It is rometimes found in the form of Blogstals have are very keary owing to a quantity of Stoney monther mited with them. It may be represented by the wells that were from when we were report the Dormania. It was long

the helphar and the amount in them and the markers tothe the investment by the former the present of in of th A1 & 10 from many to want many and a second will be second by xus & Some of the state of the mathematical of the state of the will be with a war with the same with the same in the same o yel to I hest in a digne of heat below that at which it melts a gly tyn ! Substance in formed on its surface which flies off whom her s lefo 1 struck and is found to be a bilk of evon J. 7/2 there stemson oughnessed it much by and put buf What 3 of The mid & of Merrine the to Exercise for ? who ment from the opposite of the opposite of the first

a disidenature to separate it completely from arrenic Margrout hortaught us that it away he down by Jutting Jim ag. regia the time remains depolored in the age vigica and the assence fell to the bottom in the form of & krystals. The only prepar retion of time und in Medecine is the pulvis Staumi. This; and or a remifuge by some it is supposed that its acts and had ally from the figure of its particles and others by the orsenie it intains so that it may out both mechanically and chemically This is a greyish, heavy very sonorous Metal, it may be extended lythe hammer when heated and when exposed to the ois con: struction yellowish or viddish bolor but its most distinguishing Importy in that it is attracted by the magnet. It grow much with a left Leat Man other metals but takes a white Leat to meltit. The specific gravity of inou is to Mat of inou or thembarity finou is that if we take a mafe of it out of the fujut before it has seguered a white heart and blowon it with a pair of bellows it will malt unmediately. I non apolies readily in the vetriolic acid with which it forms a Amystalline Palt called green vitriol Ial mortis or Coppers Min contains a good deal of worter. It und argoes a watry funion When the water is releved by heat it wonverted into a white powder called calemad vituril. When the hear is unged further Thrown and and is Men walled Coled has of vitriol which is hum walk of wow. The Metrous acid unites with it couring it to und forth frames which are inflammable like thou brown the vituroline and depolves it when deluted with an equal quantity

The fire your about front he character or the second or the second to date de of the thita in the veterale; and with a a dalt walked green interest out the is rathered by high it is exercised lay. is their interest interior. When the heading and in them eastered to send have uples of mount for the training soul winder out to on ofer had partly famines which and wiflemanishly letter them The work was him with one of the to return and of frather it when delited and the on equal

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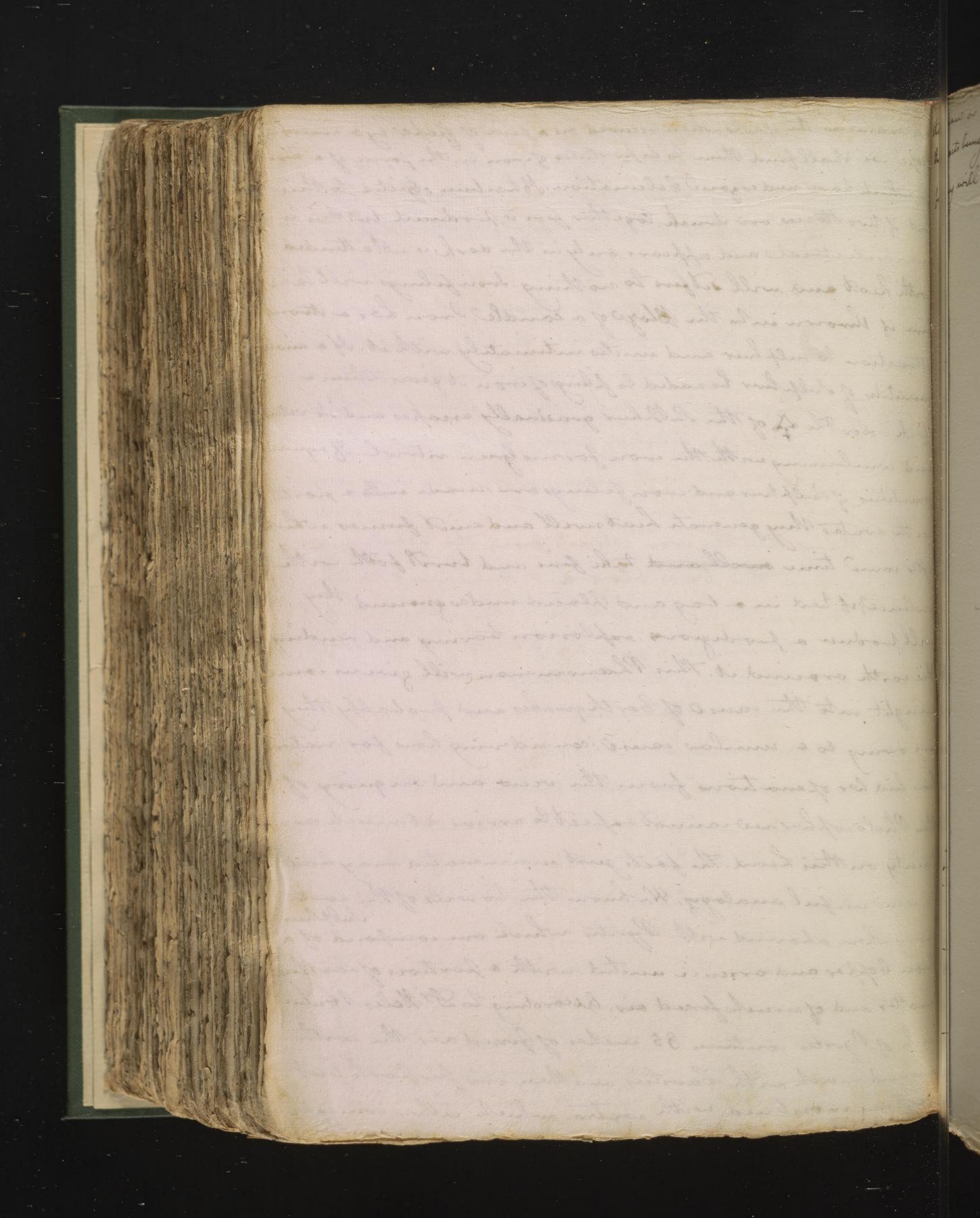
Water and yelds changs tols like grenostriol of this lobt is destilled trill visi in flowers then des chongs their princip of inflammed. low their green bolor and become of a brown or rufet bolor some port of the Inow is still retained depolved in the municipatie said Now of the acid retain ivou rolong in Solution or attract it so troughy as the mumstic said. It is on this occount very wful to detect the bresumen foron in blay a yellow bolor in this card froduced in the acid. I tains produced in bloother bymon commonly called inon mold may be to knowthy means of the memorie said. All the vigetable saids adupon it when depolared in the vegetable acid it is adjust from their dark or yellow and at last deposits a yellow bolx alled Ochre. you nothis at the edges and Bottoms of althorton all the menoral springs. If the Solution of the evon in the rigitable acid be harled it hostens the deposition of the yellow orthon The yellow color given by Dyers to to blother umade of Min Calk of evon depolved in Stale beer. This dye wundt be taken out by any thing but Muratic acid. Ochre ishoused in pointing. The musting of even is also owing to origitable acid generated by fermentation of vigitable matters in the oir. alhalis frenchetate inon from its solutions in the seids in the form of a bolk or Cehred. Mahl disnovered a method of defeating the balk of iron in fered alhali. It is by pouring Nolution of even in the nitrous a sid upon a solution of an absolit the inon in first precepitated but afterwork is redeficioned. When mon is purceputation from the munication and by means of herhenlar alhali it forms the Prespion Blue Whis wor first showered at the ordin from when it derived its name. They alkali

a Phali

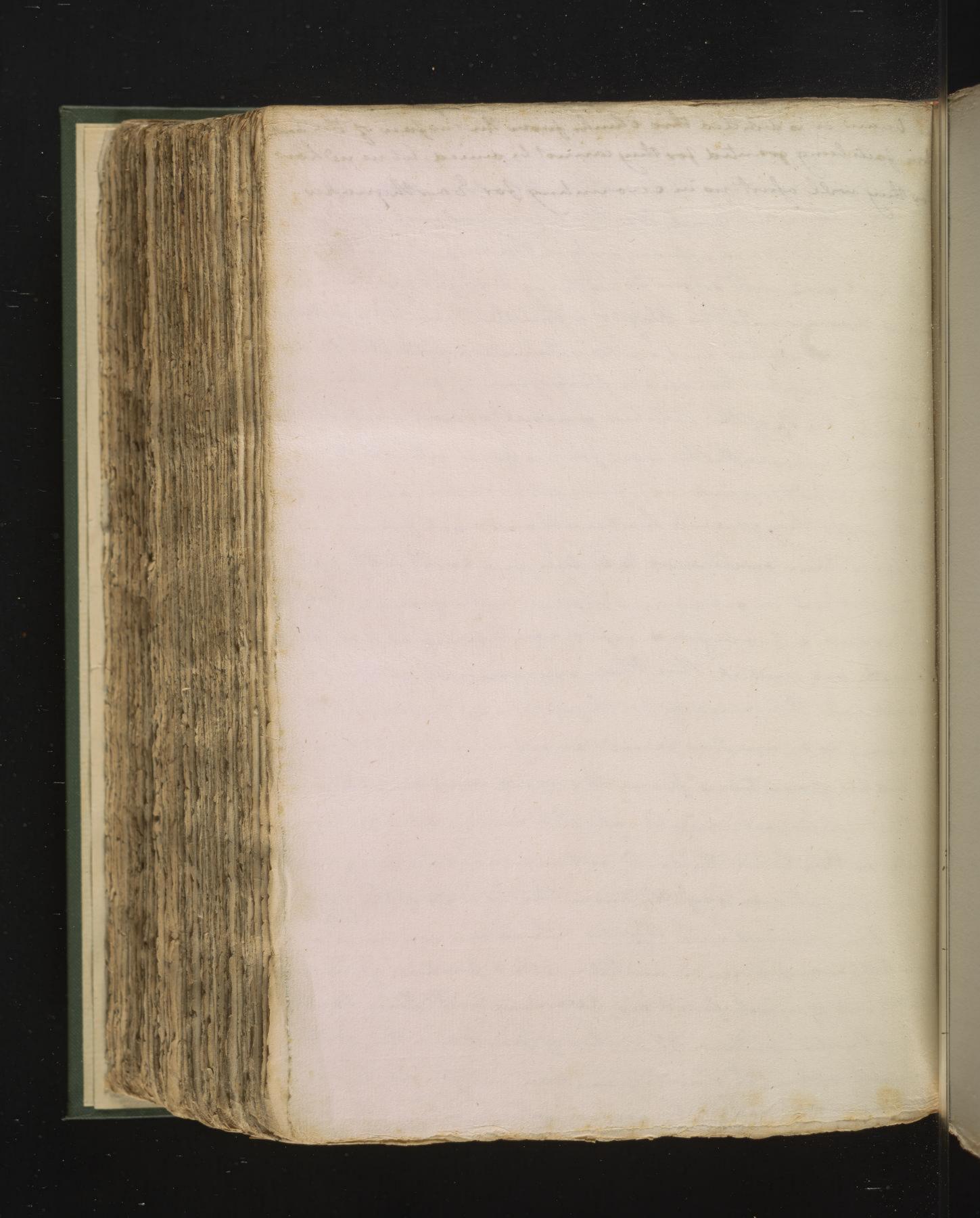
Alhali is prepared by burning I part of a preso fexed alhalifmade by der Jugasting equal harts of withe and tastar) with two ports of baces Hood in a Bruerble which is exposed to an intense heart till no flowd or much arrises, the bruille should never be felled more than to Murds full. We may know Mot it has been proposly prepared Show it preceptates never from the networks said or Mout giving, to how or black Bolor, when this is the Eose it should be totally ent and depolved in or small a quantity of water or popular b w 8 B will generally be sufficient to depolow 4 B of the lett, if this is added to a Solution of enon in the murrate and to mon in preceptated first of a gray bolos this very room danger to a beautiful blue? This blue to olor must be owing to something that the even attracts from the alkale and this your from the lives blood. We sometumes find blue earthy Substances on the Surface of the Earth, this bolor is owing to I won with a superalundant quantity of the To The Lopis Lozuli & is of this hind. The bolor of the Lapis Lagueli war long attributed to it the presence of bopper but Margraaf hor shown that it is owing to Sportion of non the Deannoth comby separated. Water and of sumon. out upon evon Metre deflagrates with it. of two poti of Sal ammon and one of the balk of evou and subjected to distillation the volotile alkali with a portion genow is and whened forming whatwo call flores Martrales Irve hos a relation to valeavious corth, which moreon its fundity In there and generally und to deparate it from its Bres. In sports of fine randed by triking Steel against fluits are. wing to particles of the steel torn off by the fluit and wheated The bollision of to take five by their hapage there the oir how forks were supposed to originate from the flints but if

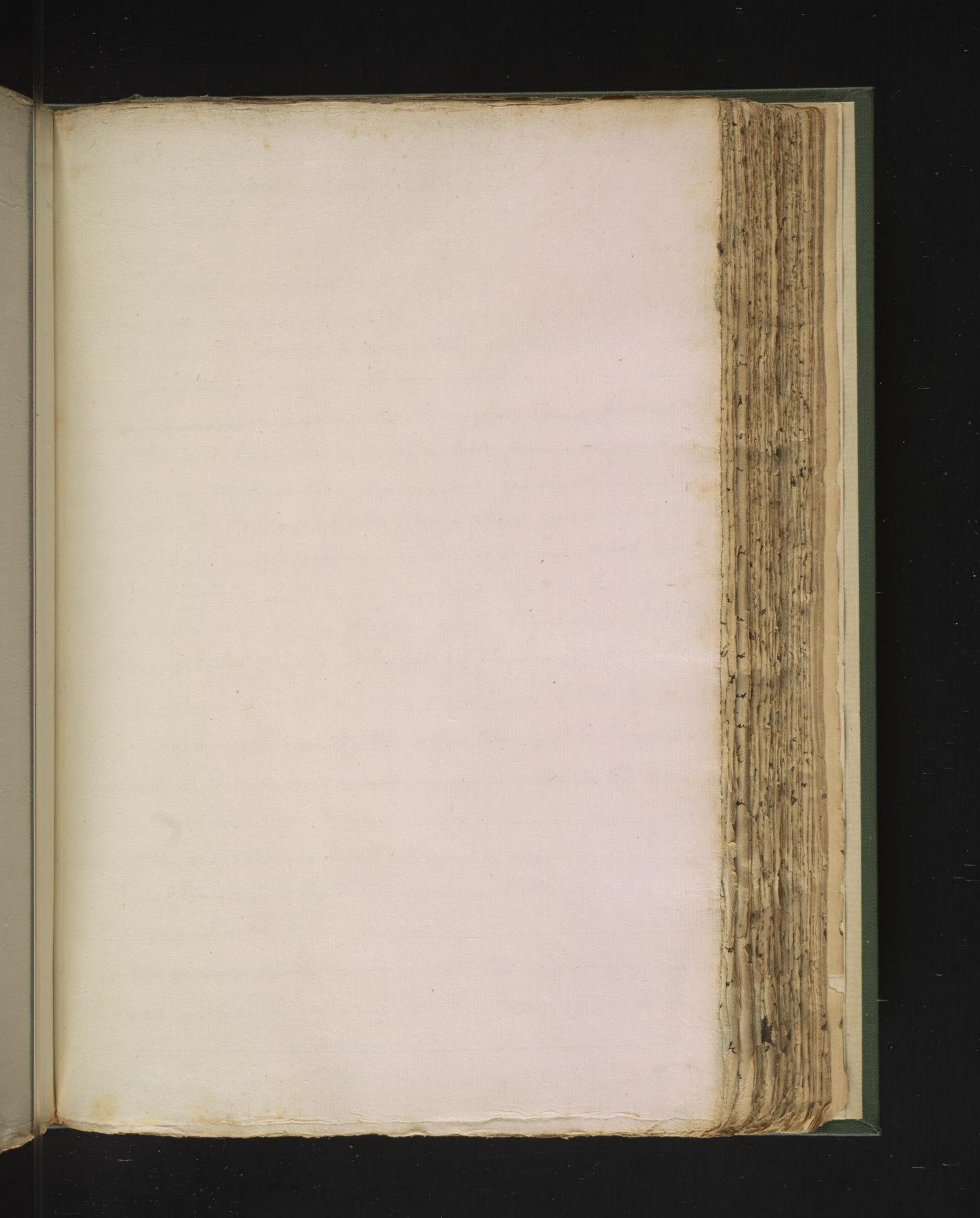
There to be a second the second to two other letter hadan The tone elaborated the today Low The water ing that The even attended from The alkali and the and ten egid he th avy tuto

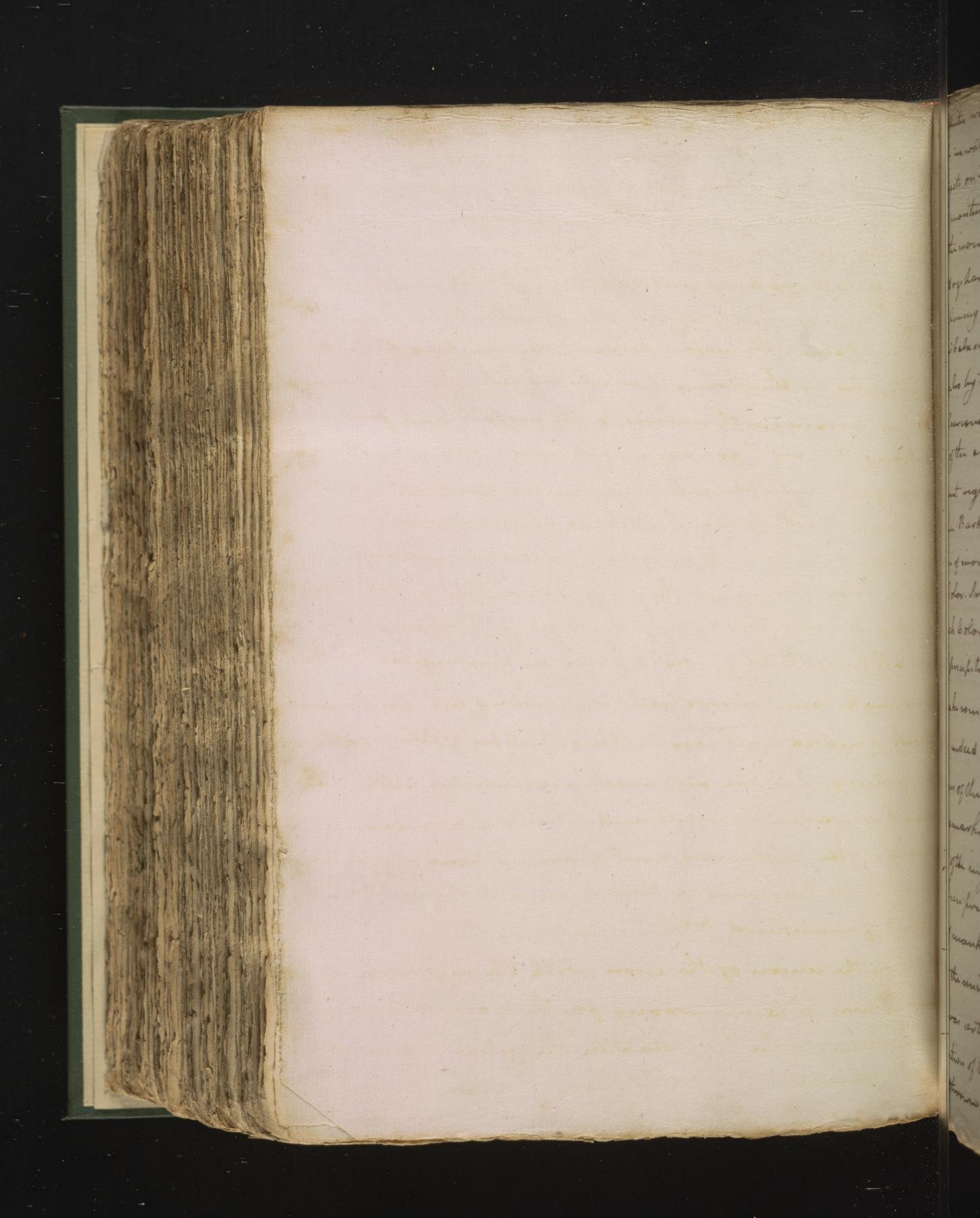
woramine the sparks when received on a perie of flakes by a micro = super we shall find them to be particles given in the form of a bis. de which have und er gone Columnation. I has been objected to this but if two stones on itweek together five is produced but this is werely electrical and officers only in the dork is not attended with head and will selfere to nothing Ivon filings will take fin if thrown into the Bloge of a condle? I non hor a strong thaction to sulphur and unites intimately with it. If a molly quantity of Sulphur he added to plings of iron it gives them a Work bolor The food the Pullhur gradually ereapes and its vitro ind combining with the iron forms green vitriol. It equal quantities of bulphur and inou felings own made into a porte with water May governate heat swell and end funes which after round time swell and take fine and burt forthe with voluce; if had in a bag and placed under ground they ull produce a productor seplomon tearing and rending the worth around it. This Phoenomenon will give us round might into the cause of Borth quakes and probably they on owing to a unclas course : coundaring how for nature has hid har openations from the view and enquiry of the Philosopher we cannot expect to arrive at much cers tainty on this head. The facts just ensumenated may had to some une ful analogy, We know the bowels of the courte very whom abound with Pyrites which our composed of a mon bopper and arrenic uneted with a partion of earthy motter and of much fixed oir. alloroling to Dr Holes Ibulin meh of Privites contains 85 mehes of fixed air. The conth Sound much with Cavities and them and few horte but who tome mors leved with water which ather wours from



the board or is destilled throw blinks from the Surface of the Earth then facts being granted for they commot be decied, let us not how for they will afast us in a counting for Box thomakes







Jon thites with all the metals except morenny and Lead. It is while in water oven without being combined with on acid The insocts on mon so or to must it with a by the foreign matters or the monthers in it: this is owing to the Schono twin of the fo from the mon. Tope went this Howling vecommends a nixter had thoy Land and Surseed oil. Dr Black used to tellus Matiolining inon superfreially to mit night be prevented the blud balse on the surface prevent the musting of the other parts, also by throwing it while med hot into hime water the valearious earth adheres to the misson and prevents the ution of the six. I nowhor a particular oction on acert or stringent orgatable substances meh or Galls Balanstines Permiran Bark Bohea Lea Ve. Is any ofther are added to a dution of mon in the vetrolic and it is preceptated of a Hack bolor. I won is not the only metal that is prespetation Jobloch bolos Mercuny bother Gold Line and plating an all precipitated of a black Color by Mund vigetables. We ship In make some observations on writing wh. The perfection of Juli is undeed well worthy the attention of Bhilveophers hymaan of this we and made a equainted with the most remarkable events and interesting ancedotes. of the works of the ungenious and Learned hours of every age have been preserved by there means to the great emoling ment of mouthend. De hew is supposes the bolos out today and on the union of the enon with the vegetable muster but he was certainly wrong for the bolor depend on a molfolution of the precipitate in the vetwolive aid offer it & when thrown down. Dr Perceval of the Royal Society

in Oren 60 9-01 Lynsus Ly ado 1 more by defer the water who by showing it which med had sind to ling a encourage the recherce to the unspect and present the Whity with felicin of the said. I won have a part in law colins one a could ge firmas define of more in the order could this freeholded of as un vi gent d of blo er all process totaled of a black looked by them I magetables. Healing "the to make nowned or convertions one working and The Grapherthan lack 6 whin undied worth worthy the attention of phi anophies man hale harmond by There means for of in of marchined. De few is nephron the ngar of lu - the union of the ever well the mage told we was costainly was and for the Golor defen writt The the development of the second will be the

proved this by a muple exporement to a blak tiretime made with holf an Owner of Golls and one Grain of Green vitivol he added 5000 60 Dropo fo rolution of fered alkali, this destroyed the Bolor by nontrolizing the acid and the Bolor was againing Hored by adding artirolic seid. Thus we see Mat int is come fond of mon the vitrobie and and some vige table matter. Whatever deprives the evore of its acid whether it he an olhali, hot or the affunan of of water will also deprive it of it lows of thing a block bolor with ocerbor orthingent rigetables This property which would vigetable profress of durking a blak bolor with green vitivol hos hun looked whom or a mark of This ortringency, but this is hable to roul exception, these New which is a bitter we Mont or tringency stocker a black bolor with green vitural and fention which we know to be out stringent does not produce the live to bolos, weither does the digned of blocknep donot the digned of orthungency for Slace which is the most or truggest of the rigitables this but a John black & olor a proof this What the degree of blocknap is winewing mark of attruguency, Inh is were times oft tothern hale from a Borrustion of the vigetablequatter This may be prevented by adding a lettle spring to five in which round blove, have been infured fum ovalie from tubolor of ink and prevents it from suching in the paper haaf Ingar will also have the Deffects and yives it & ome glop lind it is no sticky that it is difficult to upend leaves written with it. The further hours for making the but inh are or follows by Green Patriol and lag wood each ow Orence, of Galls three owners of Genera anobic on owner me half and of roin water 40 owners. They should after Mixture

he come of the week make the it he am addedly Hamman of of largery with since distance telle a condition of the first of thinking a but their extent to record more is a the title nor hand or han genery theretoes a live D. The 6 Than and an Thine & w do. wh on or follows of form which and to bruces, of falls three oriners of Generalin to for and of oring water 40 ourses. They want is the

Mexture be exposed for some time to a yenthe head more effect to tually to defeolow the preceptate of inon and vegetable matter in the itivolie a cid. Pali inh becomes blacker on standing, does this defend on a defectation of fresh matter or a defectation of the watery parts? we find that hale int by Nanding in a with It brownes blocker, the latter them for is the most frobable upposition. The demention of the black bolor of the Ink spend on the destruction of the paper, the Julufaction of the vigetable matter or on being debuted with water. Them is another hund of with which is not so hable to decay this is prepare halving or diffuning some coloring matter or charcoal fost in Water any burn't monther will answer for this Jurposo. The Chines und an inh mode of water Mudoot or roal of burnt vice and Glace. They and a hencel to write with this Inh which sticks on the Jopes like a pregreet. wholking into it and may at any time be was hed off. The quat advantage of over writing inh over this is What it sinh is into the paper and leaves a dunable stain which wanted be worked off Worting which is done with a sharp here is more dunable that done with a roft one or in the former well the inh penatratis more deeply into the paper. Yhe Romans & Gruhs und an inh romewhat like the Indian inh comhond of fine Soot and a vigetable Gum but they wnote with open or me do. It is of very long duration or to bolor & and some of the Manuscripts were then with this are or legelshow withey were unadrately after they were written. All In block Dyes am thus made vez of Green vitriol andit vigitable

defeatulier of from any the or a defection of the dupera flidou . The domination of the black Color of the Inke town the destanction optis paper the finding and the fac of who willied is made so shall to to the or of the tilean The to her on our and much much of words utoo. is tak which stude on the Japa Ehr o property from the the popular into it and away and fine the ever had off. I have the greater edvantage of our combine who over their is that its jud nustr is a deviable stain which wining wwwh land to

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ugetable ortringents. The Blother are ferst boiled in orlvingent veget, infunous and then deplied into a robution of Boppenos in Water. It lives proposes to dip paper in infusions of Gollo before wo write ou it, he found Mat shew their perpared it gave a much deeperand monopormanent bolos. The rune thing might be done to parchiment; this would be of un to Convery mars to write deeds upon and other unportant monds in which the fading of the Inh proves the Scource of great dis. futer and unjustice in fourilies. The paper should be defit befordit is glazed, it has been objected that this would show the bolor of the haper but upposed it should alterit, it would how disadvantage for it has been long a complaint with the Learned Mat wo write and front on paper bymuch too white for the Eyes. It is supposed that the itivist note the bloth but this is not the case. The bloth is not wothen from the vetwolic orid of the vetrol for this is wed in greater quantity to give boffer bolows to blothes and then are not more notten than any other bolosed bloths; " Mexicow why English black bloths are so notten is because " bugland they dye no blother black that are worth dying any other Bolor. But the French black blother or they dy their but bloth block last as well or very other bolor. Hisommon to dye Bloths blud before giving them a block bolos. All animal Sulestances and tinged by them means. The blackening of Leather is also analogous to this species of lying. The Skin has the hair first latin offly Line water Winthen but for 6 or y Months into an infusion of oah book or oak law dust which is cheaper and most hat in langer quantities. It is taking out every now

the the the of paper but aspect it should altered, items oneg a white for the Eyes. It is suppose and This I then a verticable and of the water of for the to grow to by to good bottom to to to They brighed black blother in so nothing gland they days in Plathe black that policy lived allother blooms last as well or may other Bolow ou no on to day! Plates the Despond giving them a Clash remail to me and hinged by their rane bushing of Leather is who and Coppies to this externes of retale , of The This has the has first later offly himmonothy then hat for boy & Manthis was an enfourier of time the block or oak four duit which is chapter and get me langer grant ties. His Ending out army

tobed no of R

and there and this ion into other hits which are shonger of weaking of or the Leather organies: this by the Tourses is termed Hands ling after this it is baken out and swafed clean with a hings which takes of all the uneven and flishing ports this is colled burrying. Then it is notted. All these operations and necessary before it is blackened; then a robution of Bopponos is mulbed out the harry ride Mat was harry and gives the black lide. But Sahif black and vil is used when the fleshy lide is to be blockened. The Soal Leather is put into on whinon of Ryo which ferments and thornby becomes or wow or vinagor. The heat generated by the Jermontetion wells the februs, it is then put into an infunor of oak bark as the other when it lies for 17 or 18 Months. It is Hun taken out should and beat with a hammer, it is there atterfit for un or exportation. This is The method and in Sibland when tanning is corried on in the greates prefection. It is very remarkable that annual substanting wordy receive this dye botton and flor will not neuve it from them, it will work off from theme in warm water. What the reason of this is clon end tell even from boryectione. as to the Matural his: toy of inon wo may observed Whot it is the most une ful of Il the metals and hence the most plintifully deffund the Il nature, them is not a shot on the Globe but whateou tains it. It mere with a thousand melitances in which we would little expect to find it. Most of the Blay Bhatho & outher me four of the booth own their and blue and yellow

this it is there and and soughed elean well. Histo hit takes off all the seasons and fle las hoods this alloged ig Thin it is nothed the the Time time of when 1 wenn the bosons vide Makers or harmy and gives the block inla the Best Linky Clash and oil is weed when the plesty Wasitale blackened. The Sould deadle in Austint Men wtoth friend of Reportable former to and thereby become vinegos, The hast generated by the ferminated well the februs, it is their find me are inference of doll to other when is then for the or 18 mon Then It. town adamed and heat anothe a harmon hit forms or oxford live. This is the win the and themeny is convied on in the my in les oraly reasons This day 2 Cotton coins it former theory it well work of warm we ter. What the mover of their is along ontan of tell even from Bornes them to the the the the hopon by of insurance of charies that it is the was it con for to nthu The metale and her is the most then this the street 4 10 Wantering Man and the short our the Glober Later Cart while he was rand the M is it. A numer with a thousand in literen weld little graper the find it Mont of the Elling the select and the same of th

blor to a portion of inon. It is contained in that we brued vige to to the Hollers analysis to the Hollers analysis ofthe Human body in the bonce thunselves. It is never found for I It is found first in the state of a Colse rometimes my talloged and sometimes in small round balls, Then bolls when broken resemble sound May how a mall wllow unde in which six is writained on this occombin Thy or laid upon Chancool the air expands and broks them into a member of herces. The blood stown Wongs to this blass whather the Brown the yellow the won grey or the red, they all contain a portion of won There is a balk of inon found at Maples and other hart of Stely alled Fervies Puzzolani it is here mised with a quantity forth to which it unparts the quality of hardening inwater, how it is used to build the foundations of houses news the how of vivers the mone the water heats and doshes against Attumor wolid and firm it becomes. The Emenald or Emery is nothing but a hand refusetory on of nowthin und in grunding Glass Manganers is a hoor orsofwon The blue mortial Earths or Lapis Lagueli or native Profes Blue vontain the Color of non and the fo Secondly. how is found menominalized by bulfhor about of this hind and the Magnets and many rich over of more, Some times it is combined with orsenie about rome trusswith helpher and onenic. That our of enon which is not atten ted by the Magnet is not worth working. The Method Juponoting the iron from the mostlers with whichit is windined is by no asting and fluxing. By no asting

dation have good arranding to Gallen analysing tumous body in the love them where It is never for it It is formed from the state of a Galerian times which plattinged and construct in mound la the the There led for the when to she resemble search they have a minter ! ally it Row inde in which six is writinged on this simil Vilve by on bid who thousand the air ashands and Ma I open down to their to heefe whater the Brown the How the rwol a gray, or the next they a le contain a hartwood of word and 4 have to le gramme formed at the hard other star show they filly Hinto astronos Propertane il is his memere en especiale west to which it influents the gracely of hourselineary in with secret to his tel the formalisment of horizon was the siting the of your and the missions When we have been about the stand all the second tain water to the agent when I seemed from the of because The Bours will is mathered hard a hourd weekness tony his effect or be the summetical 3 with order his hiszer be arrection I miled the contain the Cola grown and the of the only have a found unemountaged by buffling about I glind and our this Magnete and many neck and of ever whould there is is constituted in the constant about the continuent Albert and governie That, and of iners which is an Indeed It by the Magnetin not now the working The Mille Might aposting the wow from the mother with refishible mentioned is by no arting and fluxery to you are in

meant the the exposure of it to a strong five but not so groot or to melt by this means the volatile hasts as the orenic and sulphus and corried off. It is Men fluxed with Line which in the cheopers and best and cost into Mass wolled fig won. The metal is now hand and brittle externally is appears blue and internally white like dull silver. It is very hand and profrese weether due in - Wity wor Malleabelity. It is made malleable by a would openation called forgung. It is them exposed mehorwool to a strong blost of oir which carries off those and in their subjected to a lange hammer which but it into bards or Bar Irow which hopefus all the wither and ductility neupony for now. The Mithod Jestweeting iron from it on los been long known Agricola in histricative de ve Metallies desember it in the most accurate manner.

Khas mis and withhus our wound off. It is then pleased in the 1th of infield in the checkint our shirt and contrinte May fund Thappan Elevand withoughly white like down There It is very land and profiles weether deep falle . Markenbalty. It is sund washing be his se and open tion welled for going. Him refrond into my were at to a shoring their of Bir which warning the I count is there in ligated to a lamps have made which uffects it it into have or ilsor Iron adult happines all the go graine Must and ductility weightery for inous Whe White igthe bo queola in his tocotion de on Metallies desember street this state funds the most opening to ancerous for fress

Copper. The appharches in Lardness nearly to ivon but has not so much of the 40. It has great Malleability and Ductility. His defficult fundility and requires a strong heat; & when fund offears greenish not yellow and is not couly altined owing to its shorighy attracting its of . If a drop Juster falls into it when melted it will explode with alond no we owing to the undden waveriou of the water into wapor by the great heat of the bopper, the water rowies round of the Bopper with it here we the daw. grows effects of the Explosion. Melted Bopper throwning to a longe quantity of water will not have this effect the water in this un woling the bother which is incapable of converting a lange quanthe of worter into vapor. Throwing boffer into water is rometimes und to convert it into grains this is called Granulation of boppert His in this state more fit to be united with Charwal and balas mine to formed Brafo. Copper is most sorily columed in a head a Att below fusion. boffor is more conly affected by all the Tolts han wow. All the stronger ocids defolve it while the weaker wrode it. The vitrobie said when concentrated defoolves it inti motely with the ofurtamen of least it outs upon it with conindeveble force producing great affervisience and emits fermes, Jo sulphureous smell the rompound is of a block bolos. Ithis block motorner be put into voter and evaporated it will form chrystalo which and called blud or roman Vitriol. The blue vitriol is most commonly obtained for the purposes of arts or mede und Juone pyrates which and composed of Copper with Sulphur and Earths. Themes is always a little ivon in this composition. The Metrous to

E Chirer within the forest than he was in the is afe it was good the the said the first and the there defined frontelly and vaguers a strong heart of her freezed explorers queeried wat riedlows and in with a soily threat orming to the characterist setting the off . It a dright utable o who foller into it when metted it wilk exploite until and or sing to the undeless consequence of the to make it by the great heart of the capper, the ud an ety ionice norms of the Bophie in the it haves the down Huch the Employers. Melted Copper Throwsing www. and the standard was how this effect the water in this ! Pan is the looper which is weaper the granisating a lange grant musting to report Throwing Experients no ater is normationed richer ding the forms there for Estition is mail execute columned in a head a I The interesties and when concentrated depolice ab with of hung with frestly with the opentioned of load is not express it with con in by ledder the force forced green offered server and south frames delphismous small the rompound is go block bolot. endi Which block in listaries I higher true to rotes and evoperation ythe down the form which and walled the or ational The bless setting to a mout common by obtained hurpers of arts or made cand from pyon were fall wow in this compression ? In

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aid acto upon it with effervenenis. The murratio aid octs whom it more slowly, the Solution is first brown but ofter words homes of a beautiful grafs green & and deposits part of the box = for this Change of bolor oppears to depend on a gradual aperation of the of It may be intimately united with the munati acid by dutilling it with Corrosive Sublimate The orgetable areas do not act readily on copper with metallies Note the oct upon it chaffy when bolemed: we find that vigety talle and may be boiled in bopper refuls without hust it Joured off when horling but if then and unffered to wol in them they contract a nouseons took and dangerous quality. This is owney to the ois the contact which is neces, my to meeting being heft from the minde of the vefiel which the liquor is boiling but when it cools the steams that felled Ambridge the vis comes in Contoct with the Coffer at thems faw of the lignor which is then un mediately dist John Privious to its bring defialved by a vigetable acidit must be converted into a berufu by exposing is to the Honors of Vinegas and then Jorns verdigreas. It is made mor Montpelier in large gnantities. This verdigins away Indefolved in the vigetable acid and converted into thoughtols and is then welled drellled vedegins and is sunch valued by the pointers. The acid may be reperated from them hymeans of Leat if they am one or twice dutilled and is thurhighly concentrated and orstrong or the John cords and will even produced inflammation with effectual als low of the acids burdes this except the Mitnous wer be uping wated from Copper by heat alone. The and may be reparately

A both is 1. 60/4 tolor felton John . the day

from it by alkalies. They preceptate Copper from the orids in the form Harditer a biantiful blive is oblamed by adding volatile alholi to a robution of blue vitural. The volatile abali defeaber bopper With it its metallie and columned state, the weakest weakest so lution of bopper is nefficient to produce this blud bolor the hum doubth hart of a grown will tring a punt of water. When I the the volatile alkali is added to a robution of Bother it first bearing muddy and afterwands hanges to a deep blue this bolos may hmade to disappear by adding some of the rand acid that dif whend the bopper. The viful must always be open and exposed to the is or the bolor desaphears. The manner of making this pres function is to take Ziv of the I vetwird depole this in women water & felter the Solution, then add a lettle volotile alhali and or much sprovit of wind. The solution first becomes these to hid a blue powder then folls to the tothow by next which wher beautiful there thoughtals. This serves not only to find the bys but is used for the Epilipsy it does not so stainly mused or Line. It is a quitte ortringent. The fixed all as halis dipoled bopper resolily but not roquick or volatile le holi. Mitme deflagnatu with it in a string Leat. If tolome rullimed with blue vitinol we obtain the Em litie # Veneris, this frough it laken Juon Boyle Man is snother Imponation with the volotile alhali called agna Lapphisma Minin made by defeoling tol ommon. in Simo water and referring them to vernoise in a Brafe mortas for rome days In water becomes of a blud bolos. This must be owing to a duomposition of the fol. ammon. by means of Limbor tes for How put tol ammon. into a braf mortor alond no buch effects an produced. Copper hor a strong alluaction for the of It mutes readily with sulphus and depolves in neveral of the over mother oils. Turpentine outracte a green tructure from to. I thos

the home the both hour fortio et lui dinos in dept lately In the pattre dut is used for the in books the in Elimed with Elice outine Concolle way of whing a mu the boy

wattroction to avvenice which turns it white, hen wutunils made of white metal should be used with Caution. The most rmorhable compround of bopper is Brafs this is formed of bopper & The The Line thoit is itself white does not so much change the Idor of the Copper. Merenny well with with it with little difficul by when preseptated from its solutions in a cids by other mes tols It out on ropper only in its metallice form. The morning by it outs but when preuplohed from a cid is Most it his more extended I now is and to precept to to bopper from to Solutione Howin depled into a solution of Coppy in an acid, the sid would ately lets go the Bopper in a metallie state the 6 offor stracting the food the inon. This has laid the foundation for the suppose tion of the 6 on version of mon into bopper This attracts a blue bolor and is defolved by the out to but them is no trans mutation. It is raid them is a rue, informary which converte evou into Copper. It is probable Matthis never runs over a bed of Bopper Pyretes. The won when thrown date it attracts the Bopper and and upon note the Copper which is viduced to its metallic state by the so of the inow. It muster with all the Metals all the initations of gold on Brook Service love on and made from to bombenation of Zime and Copper. In round the imite. ivery triking and leautiful Brof mixed with tim maker Samar ruging Bells Telescopes Ww. Copper will unit with Lead if it is boiling hot of this meetin is miffered to wol the 6 offer in thrown whow the top Lead is sometime, mixed with Bopper to extract the Slover that it contains Offer is found plentifully in all parts of the world or in Swed an Hungary, Francylvania and america. His known to

of which comments won unto Copper to be in probable - runs over a had of bopper Preparties. is a let in Brook stormic lor be one made from I'm r in of Line and bopper in mound amy trinking and leasitiful Brok much an the tim makes an ingend Relle Telescoper des Copperwell unt who do with had if it is booking hat if this unchion is on theme wood the 6 offers in theorem whom top had in constru nd it med with Bopper to outwart the o'llow that it contains Ohn plentifully in all parts of the world nin him tion manageroused and line marchin Enounce to orite his.

be contained in the howels of the Earth by the blud or green bolor Ithe ground about it or from the blue or green bolor of the Springs Juster. I have count determine from either of there hearho woment take a lump of the ord suffrond to wontoin it and moster it with agree fortis and then add a volatile alkali Wheremen of a Clar Bolor it is a Bopper one. Bopper in rometimes found in its metallic state but this is Isldom the Bood. It is found first in the state of a Balk concluded with Borth or wow, to this head belong the Glapy on of bopper and like win the Green and Blue. The 2 nd bompvehends a great many other ones of Bopper: it maludes all thow in which the loffer is would with Sulphus or arreniw to this had belong the Bopper Pyretes which are distinguished from the mon Pyrates 1thy their bolor which is lake Brook and Ind by the greater handness of the mon you in to which will stucke few with Steel whomas the box wwill not on secount of their roftices 3 nd Head bom will Jude all More over which abound with won or will or woffer and husbably contain more won thouse Boffer This metal when fromd in its metallie state. In unt very ductale and become more so is combined with had The Lead may be repented by charification: Humis Bunch danger of the Copper hung wlamed and if it undered it may easily be recovered. after it is melled bold water in shown upon to surface towal it, this by it waponstion produces a great degree of bold which horhunter outer mospowinto blote. It is now called now wow bopper. This process it repeated untill the metal

of the mak and of to be state on the land their in Roll down the Bond. Her by th agent whi Hun h.Th mit in the he the August Marchan & Land Harry March alizo 1 and

is entirely handened into plates. For a further occount of ex toiting and proporing Copper, 6 omnel + Margner Mens man and brammars Chemistry. I next go on to spok of the perfect metals but shall first who mention thow qualities in which they agreed, Gold and Selver have long been dulinguished by the blees mit by the name of noble or Parject matals. They hopes the most of the properties of metals. they are incorrectibles in the air in general and are less acted whom by the comit mon agents of Chimistry than the oth or Metals. They first resemble on a another in their dutility and Malh which are very great but gold hos the great Thank of their qualities. One Grain of Silver may be extended for Byard in length and afterwards to flatted 2 mehr in breadth. The ductility of Gold is mally ostonishing, this "widen't in Gold Law. the external motors of which ! is Gold the internal silver the Gold constitutes only 48 mil fort she thuckness of the Gold is only the 134,500 horting Jan uch. Gold Low is aft to love rome of its yellow bolov by wearing on this occount it is made thickes he thatis is absolutely needpany. The French Beadenicions extended one growing gold to the Million the hort of a line aline is only equal to the 12th port of an inch Thus we me the ductility of Gold goes almost beyond bonception and incoertheles strictly true. They am also Indindestructible by five and endune the most violent heat without change, MRoyle asport Gold and Selver in a furnace to a mot wenn had knot and found they were lettle changed

and profound bother to an and Giranmunar Chemistry . . the gother for from elate but shall some lycon of the ed and oblines have long him the by the mains of the the or Profest is close to dud that in general and an lipertus in by do who of Shermitery than the other will all they 1 holo atte are very grant but gold her that frog them qualities. End from it when himid tu of what the The deserte has to forthe in nduel endered in Gold dard the regol ital

the Slow had indeed lost a little of its weight probably from a part of bing deep med in vopours. No heat but the concentrated mays of the how act on them and then will not vitrify or colline them but only course them to read forthe frences, they candrat be de = found of their to like other exactals either by head or air. 3rd They round be affected by netre all other metals can. blur ud eed is a little volatilized, this might lead us to supert that they do not wontoning but now have . Wher proofs that they do. Acids demonstrate that they do they act on their non other metals, they act more on Silver this is evident from defolving blues in the nitrous acid whom all the marks of the As take place. There is one fortwhich never to move that they do not sontain the fo viz. If there metale an valuamed they may be viduced independent of the addition of any metann, this cannot be denied and a atme reduction takes place Mis Iwould suppose to be owing to the allvacting and besing the very of the sun The balse of Selver may be viduced by reposeer to the regime 1the how: may not the head and light of a rommon to for act in the rame way roos to wonthite throps. Inche nothing unpooleble in this suportion. But suffroming then facts do not demonstructe the for to be wentamed in then metals as all others own Meis ductility and Mollia bulity to this principle and hard with it with diffe mut digners of difficulty we would or evile there properties in Gold and blever to the same principle and uppose that they have so shong an attraction to it or to mount it from Sulstances in which we would not suppose

计协 hold ut de tmet ducin a little walately set this might live a their that they do not watering their one push was how There a box other d gold l it the the the state of the state of the main to five in deliberate in the interior

uppore it to axist 4th May both withstand the sconfying hower Head Lead without lof of Lead wight Mis 103 of Silver may be obtained from 100 to of Lead without dumenu: tion owing to its othong attraction for the for on this mount Lead is used to separate foreign matters from the project metals this is called Boppellotion. Lead sets by swifying the Bopper and reparating it from the Silver with which it is frequently mixed, it is necessary to add a good deal of lead in this case on the Lever protects the bopper. The refeel in which this operation is performed is alled a boppel, it is romposed of a roft honour blogwhich shorts the Lead. Lead is used to depende foreign matters from Gold but it is more difficult to reprote then from it Man from Silves. Silver The appearance and obvious qualities of selves on influes on with how to mall. It is not liable to must in in the and unliperegrated in the air with an and it is tarmship ed by putrid Sulstances on that float in it. This is owny Juhape to the Copper it contains which it is difficult to uperate from it. Isher melts in a life heat than Bopper. The few for direct no other Change report. When soling it vegetates or sprouts out into brouches. This only happens to longe quantities of selver and when it is very pund. It is owing to the Ludden contraction Ithe upper 6 must by which the liquid matter below forced out in the form we see it. By houring

grand it is saint it to they booth me that me that you the second young place Land with the file and in glot their 1 th of the hand utron way to obtained from 100 the of dead without dimense being to to observe attendation for the of our thing ght of wother from the dead is evered to depend foreign mother from the popul metalo this is earlied of phellation beautiful mohar weighing the Egyper and representing it from the below the with a ele ha the official some of bearing of mineral with some god had of had in this wood so the thoughoutet the spers ged + of per the while in which this glandhow is performed in h foli alled a supply for any more of more wife adopted a supply where he the dead stand is and to separate force you waster ! rdie w. Inc forth want in more of the world the reason is directly being lary t which +++ Chrystale will be formed which are very courte ld. M if these are friend and De nd The hua It is the confrequented in the continue of an acceded to be bounded. The former of the foreign of the former of the former of the former of the former of t

boiling and highly concentrated witholic and on Silver it depolies I and no obtain a milphur which evences the exestence of & of The notions said outs upon it more madily: when ag. for the is deluted with an equal quantity of water it disholves twice its weight of Silver during the Solution fine red vapors arise which are nothing but the fo of the Selver is four the foliation is transparent if it contains Copper it is blue and when deli= ted with water and tosted it is found to be bitter, it itains the butile hairs riails of a deep lasting black bolor. It is used to give a parmoment stain to posiciones Hones; the Sulstances to betinged should be previously exposed to the Sun or the black bolos depends on the Silver attracting the fo and this bring viduced it never degnines a dock bolor in a dark place. In order to depolve when in the Mitnous acid it is meeting to add water to the oud of this robution is evapor water which may easely be done and housed into little Mould. Her Lunar Caustie will be formed. If they are the Silver attracts the of and is ordered to its metallic in tate. The network out is separated completely and flies to Hoy in funes. The mumatic said oction rilies more mongly and reparates it from its robutionin the other sids frooveded it is fow from water. Tit contains water the Lilver repenates unmediately and falls to the bottoin. Holournot act on Telver in its metallie form, it until with it but when it is in the state of a balk. It does not; set so shongly on it when in Junes that is by disthing it with borrows sullimate. The best way of unting where with the murrothi aird is first to differ = solve

production to a condition of the state of the last of the state of the talleto ante experience of manual organisms and for his is and a grand to give with the glower that it with the start the said the sai tion a week of est combanies of explans to explans to have At across and laded it is period to be latter, it stains the ditte was 71 thing Lithan tille cornes whore 1 to day m ocio Marg I for to continues over it aspended count belefy and flee ma bl provided it is first form winder of it contains wealth it un was reproduction morned about and for the the lothered italy . head + the Environment in Chamber 7 the Least windy of 14/1 wit المولادي

solve it in the nelvous acid and then to add some fold when which contains the Muratic acid. The Solution of Silver in the Netwous and is used to discover the prescence of wommon solte in springs if May contain the host has tich of Sea Solt My browned black on the addition of this Whition and the Silver and anumati acid and precent toted. If the weapound is divid it melts in a low head. It is flexible transparent green melitaries called luna bornea. This when heated emits vapors which penetrotil very thing but Glass. It is corefully melted and poured into moulds it has many of the properties of glass, but is still malleable, for this we may understand the malleable glass that has been tolked & Runchel Shouks it populle to make glass molleable and in pudhe tells en Du hor nen rome But it is probable that it was only to Juna borned in this state; this substance should always be kepting the dark or ele it agreers a black bolor. The octors acid can be a made to depolve silver when it is in a preceptated balk from the nitrons ocid in the by means of an alkali. This was discovered by Mr morgraaf. Whatele olhali when treated like that which is " used for the preparation of pringinan blue defeatures small quantity of silver . Filver uniterwith Sulh hur and regimen a black bolor from it, it is also defeated by hepor hel : Muris, it unites with all the flinty earths and with all the metals except nichel, it hos the strongest other etion to bopper Lead and Gold, it is unallevable by air and water. bloer may be reported from all foreign matters by means That which nonfin those matters and corries thom off. Inginist in found in great quantities in South America Wefind it I in the State of a Bolse its mation State. 2 mines volized with Sulphur alone 3 rd with Sulphur and orience

the state out out is and to descent the francoise of Thou on sollie in through if they contain the least por wind a feetier and the ordered and arraying the said and present out of the wounds and is deried it much in hearth is to bransparent government trained and land fur an Comme con This workers health on where madiens which providing me of a were them but Estate of it is comparable the outlitted and pound up a Justs by m to re my it a Imant is that hid by ist and a Preva l of their it,it ~ fortin is it is allowed bodowed by higher inthing of hylold while a to defend a fortis " 4 to thater

4th with Sulphur Copper and assen is 5 th with Lulphur or min and won 6th with Sulphus and antimony of the with Julphur Copper and antimony 8th Sulphur and Zene It with Sulphin and Lead and lostly with Ried of bounders When from is roft makes but lettle moin when struck and is a little alostic: its specific gravity is to water or 19 to 1. It as hands in the few and welts in a white head When welled its new four bromer of a blueich green appearan D. It is rendered bright and purer by the feve . It cannot be colemed by the most intern hat in its south state but when in an amalgama with moreung it may be a little columned by heat and ois, also in mall quantities when combined with tim Hor wi before theroad that the fuse hilety and wolerno trois of metals was enercored by mexture: after it hos been fund it always withouts and hos a concour merfoce it also becomes more buttle. Pure Gold is known by the touch Stone. This is a Hener of Whin stone Drohund that upon having gold rubbed. upon it, it will lear off some of the metallie hosteles ogno for tis is then put upon the stone. if the metally defolved it it in unpoured if it does not defolve it frame this in their Simple state down of out on Gold . Whethere rol: unt for Gold is a mexture of the Metrous and ministe sids called agun Regia. The rommon way of making this is to defeated on Thost of common rolt in 4 horts Jagua fortis. There is a leetter method deserreled by themes by this is to put a per of Gold which has been free ! rously heaten into a flate, into B harts of agree fortis :

stud for with the the four toppes and assessed to the the there on former and were to the wiftle suffering and and many with to the him to opper mind and house my strought him kind The will be and dead and lottly with land of borness There present is soft musher but a till wome willow strongth and in a the securior stocker growing in to water out I to f. It or from after for and injects in a white hand When injulled its minjour aproces I de blessink green officerale with is montered bright and presently for the formal de comment for water and by the winding to saint his state for me in an amorgania with were comprehensing to a little whenever by heart and see, who we ! on the was finanthis when con bead in the time has not buffere that the four to the anie when who is of medition received by mextures after it has been found it almost ment of and has a converse authorized in believed and gua ort alle New Gold is known by the touch Itan O. This is a seems of When stone Duckered that riplow houng gold miles have it it is sell lear off coins of the metallic protectes for his is there for I whom the stories of the metally and to to part of paris of fall which has been for

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and then to add a quantity of common Solt equal to the Gold In this way the Solution is made in a gradual manner! the networks said outs whow the A of the metal and the Muris the oud on the balk of the Gold. This whitever is go bright yellow color by destillation the networks said way be seper rated from it so that it is only the munatic acid that oute whom the Gold. yellow colored Bhuystals may be prowied from their volution by evaporation. This volution tam animal inlitances of a dup hurhle bolor it is also used to give a permanent bolor to marble which is of a coleanous nature, it her strates deeply in to its mestance. It attracts the to from the light and is thus viduced and to this the deep bolovis owing. Gold is reported from a gree rigid by water notion, but this always sames off some of the Gold with the organa region Gold may be precepitated from its robution in a gua vigia by a fixed or volatile alhali. A yellow the howder falls to the leathour forming aurum fir humans which is Ladvier than the Gold that formist. If one grown is sport to a gentle head on a fit of huper, it asplades with Mary quick win lik hulvis fulmenaus. The Leatneage my to produce this explosion may be so gentle or not to unge the paper. Its explosion hor been attended with the most down of ful consequences when the head has hen modered by attention or the Rays of the Sun for this vioson it should always be doned at a distance from the fine Its exploding hower may be destroyed hyworking or twiling it in water, Amay who he define = wed

The de ater it from a wal of timed thelolo hund ldand Hal co maller mful " adde metal? are produced by ather him or the Rays of the ty, this whow a version to should always be droved at a should In mil rib a weeking or English whis math " Hefin

and of its forlumenting quality by nelphus fixed obholis and the introvo ocid. The enercase of weight and fulnumeting quality on in my opinion owing to fixed six which it gets from the oblide wit may be from its attracting the fo from the fixed ois and unddenly setting fru the wital oir. The metals most commonly employed to precipitate Gold ond mor enny and trud. This things doby attracting the municipies and. When gold hor been porcepies total from agna Regia it may be again depolved by adding an olhali proposed in the ramed manner or that for Profisero Alue. Gold may be repeated from agno vigin without a hat. Ether defeatives it and ordiner it to its motallie state V' 4 Merates it but does not depolevit gold may show whe rated from agua nigure by other substances, the Solutions Juveral of the metals have this effect; green vitivol is mentioned for this purposed by D'Lewis which hweches tates the Gold of a brantiful deep yellow bolor which is much employed by Gildars & arthy Boolin one colored and by Gold and ruffer no other Change than this. It gives a selfold and ruffer no other Change than this. It gives a manhful color to rome, the Ruly bolor of Borceloin oud ylap and produced by a preparation of Gold. If the In = Hammallis melphiner vicovers Gold when in the state of human fulmemans but does not unite with it. If Sal, Thur is added to a white mixture of gold with when or any Mormetal the withher unites with the other metal and uperates, this there is the best way of from fying gold, bor This purpose & mede and mony is generally amployed in this the melphus is combined with the original which la thety is refrested and it endures mond heat when wit

had to fertimenting genet by they and have fine utus alphus way be from its attracting the from the withint alports by larged to proceed the former your many point has fluid for by other sting the reconstructed When you have here hough ureduce on agine theyen it micy he against defeathers by indicate well and public forefored in the same confirmation that toshild The field many be expressed from agree my a the thought that Eden defeature it and medican it last and medicale V by their tur do dform no of the ion of an aployed by foldow Earthy More tung a marc 1 sund and the form the ordered by a phylos materia of your all forms never ever finded interes in the affect of the How 400 of Ty of m m you is who

more completely penetrates the metallic matters. The rigus his mixed with the gold falls to the bollow of the Brusible and the Sulphus unites with all the unpuraties. The orgalus may ofter a wonds be comely represented from the Gold by wavious methods The melphus will not muite with Gold a Hepor Sulphuris wholes itentimately. This Helpor Sulphuris should be preproved of good ports of Sulphur and a fixed alkali and Moulobe und in a fluid form. Thereford Stahl very froperly supposed that Mores reduced the Golden bolf to powder by means of Hepor Julphunis and by this means mixed it with water and good it to the Children of Israel to druk, what makes this month root table is that the Solution when tosted is found to be runos has by bitter this Downght Mareford was a proper humbment for their Idolatory. Gold unites with all the metals. It is defolved by and forme on amulgama with merenny. This It is by means of this Matwogild metals. They are first but note a Volution of mercury in a grow fortis and then an amalgama Amerenny and gold is poured over them, they are then heated till the morenny evaporates, the furfow is afterwards bux nucled ourd is of a shiring approxame like Gold itself. Maximy has a very strong attraction to Gold and desents all mitate to unite with it . The morning sticks to the Gold and gives it a white bolor hime Gold is und to discover the however of mareny in any proposation. Ho longs quantity of Marcuny is added, the Gold is much enflored and henetwated by it and well then enumble to to hence or makin your fingers. All metallie mbolomers but til:
wrand wher take away the proporties of Gold. Hingla main of the is mothereent to render brittle a thousand

4 9 40 or completely personal star the material or attender. princed with the gold falls to the bottom of the owner deed ignotes and the confrontier the regarders among of de la course by representant fra matter forte exposición in in men appears with met wenter mithe field a thepar halfelieres as combinately. This Holis is he was should be deeper to first parts of shipplines and a feed abhali and should be seen a placed form. Therefore stable wery properly without the tation reduced the Golden Eof to powder by more of the afflowed and by this means mixed it will wrote and good to the sheldered of Arroal to down by what rishes their sime of the that the solution when torted is found to be a orine uable r bether There Home was a proper present their Idolatory Gold units with all the motals . it is defect th well at forms on our lyour with mercing this It is by Many blation of mercury in signs forter and then on analysen man mounty and gold in posses of them, they are then have the maring emporates the furtoes is afteriored on frea ~ shed one is of in dinning of presence the gold itself being hos a ming strong attiraction to gold and disente all we it a white bolor lines gold is and to surround the of winds wing in any proposition. He longs Mesermy in ordered, then Gold is more the of the on surpro allows taller only Alle to be the the transmitted of

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fraise of Gold. They and bopper make it hander and aremixed with it in making boin and in Mensilo whom the Landwess is an important quality. Then are rolled Alloys, them is generally in of Mor in Boin. When Gold is Jure it is said to be 24 Barrats find, but when it contains 24 throf alloy it is said to be 23 barrats fine. The operations for refining Gold and 4 vez. bles =mentation bufellation, refining with brude onte mony and with some many fortis. But the bist ones thod of upanoting Gold is by furing it with Brude out mony which takes away the Scorice Gold is a seaved & valuable metal it is indeed found in most havts of the world but in so differed or state anot to make itwent worth collecting. It is found in the greathest quantities in inthe Spanish West Indies whom 5.000 weight of the t ove only contains 12 annees of huno Gold: some is founds in Germany or Hungary in Lead Ones but never in a whenth or hund state. It is found diffused throthe landet in Africa near the Banks of Revers and near the Lucy. and on the Banks of some of the Rivers in France or it Mr Reammer informs us from when with collected by the poor personts . I ven indulland it is found ver near the Lead menes, but ham it is not worth ed! leting as the One does not yeeld much. Part of the boin of Motland was formerly made of this Gold but it was when Gold how a higher frien than it now the does. Then am fine rand but what shew the presumery Hold, mich or and black heavy and boutain won yould the most. The presence of Gold maybe demon?

of your dies and to opper make it is writer with a is employing some and in Alternate where the handings is an afinisary gradity Thing are colled theleger there is green while There is a coin their fold is from it is raid to be to the Same of Distriction it contains to the of alloy it is said to be I will has been post known to hat majoristo of your hich of hantation oupollations, repringered build and very and with equa veryear frites. It willen beto me -The of section of the garden of the section of the Langer and which takes away the down so gold is a second elected in indeed found in most hours of the weather in a defigure on a lot want to an a fact for Druft or the sollecting it I found in the greatlest war m me the Spanish Histolization when 6000 minght of The continue 12 americ office golder our to humany or Hungary in Lead line but were in native at or pure water the found deffined when the land braye you is near the Hamloof Kinner and went the he don the Banks of rome of the Reversan Forance or Romances suformed no prom when it shis contrained ited in the poor persons to men included it is for formed son the Leanel revenes, but have about a restained in as the line does not yeld much. No I of the of Meland was forward made of this gold an ofte it was when fold home higher have their to it without and few rand bust winds about the person is und so and black heavy and, beautremen toold the sensort. The foreseered of fold any he de

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- trated by rearrying with Lead and hot osh or any other other live solt. This method can never be practised to advantage in the large way gold is repenated by the rame method from all its ones. When this metal is combined with Itony matters thursan founded and represented from the Gold by Sugaration Eletriation; there is another method viz. by adding mercus of which attracts all the Gold and forms an amalgama in the it the morenny may afternoonds easily be separated by hat or electrice attraction. From what I have raid of the un hangeable elementary portieles of bodies you will early believe that nothing can be changed into Gold were supposed by Chemists to be the only artise point afterin metals. It is undeed not hopable of to prome it from my metals for or Ihow raid he four thur does not exist umoglo hartich which did not exest immediately ofter the breation for gold is indestructible in its nature and the it may undego many forms and wenternations yet it i never hanged. Good Men have been sometimes de. word and supposed the hard pro obsered Gold when it princited in the Substances they operated upon. Bod Men hava deceived others and pretended to the discour - my to proment a ferreting in to the method, By which they have obtained a fortune, you cannot be too hubbe Howe Me how now committeed the Chemical and ele haminal history of Delver and holding shall now ray How wo not on There in a the potitival view. Sunw quiness

o this u and many thought in who will have men me through his buther this word untend agenthe elementary pay he he of bordier you will planed by Chemisto to be the only orthor from とかっつ anotale. It is indeed not populate to be owned it from 4 the or take for or show wed by from them done underent aled to th. 72 where the de it will the summed and of of for Gold is an electronicable in its insters The human deceived others not perturbed to the discount of functing in to the method, by which they have obtained a fortune, your council to too public perioded in dolowing your distribet of the Philosophy all the court she she formal history of a lest and foold, in shall now ray monder There is a st. potteral new some of grand graphs ...

wo fent comed in England they have depreciated 200 times in Nalue This is owing to the plentiful deffusion of gold over all the world and the present great quantity of it. The abbe Renaud whoms in that 20,000,000 are animally unt to the East Indies from Europe whom great hast of itis buried, for his not occounted the mehest man who shows most Mos = ney hart he who has herzie most. Providence evens by this unsecountable foolishness in the Indians to have intended to prevent the great quantity of it way of the Gold from lessening its value too much This ho accounts for the vost quantities of Gold which we mad of a rometimes our dentally found in the got t Indies, the inhabitants often dying without having willed to their merefaors where they had hid their wealth. There is another perfect metal called Platino MAtin you have a very severate occurent in Lewing Edition of Neumans Blemstry to which I rand add to nothing and to this therefore I refer you -

world out the person grant grantly for The abbe Renand Logicar Home in these 20,000, 200 an assurably unt to the Eost lund and prome general or you deray front digiter formed the less was vere unted the medical runs she shews was to the Ly below my test he wite has bunging most of movedence reams hunford growth c the removement of both forther of in the dudians to 4 forme can interested to present the great promitify of it was is clemen The Gold from lefrang its value too much This white sho everute for the word quantities of gold which me word u and of or remedence been deed to found in the book sepera ladies, the valuation to the object without had their ir many than weath. There is another perfect unclose welled Migod Shelmon After you have very severet occount in Semin Hyay buil Edition of Namenous Elemoty Combile Irandada attend and to the things on Information

Having now furthed the Bounderstron of the Metal's we are next to All the general properties of water such as their weight course Ithis fluidity and the like which I'B oerhow hos raid so much of belong properly to mechanics and natural Phelorophy we thereford shall not touch whom them, Water is a mixed body and or much wound froperly under our conordere twom. Water is never found have entirely the I have no doubt but what there is elementary water. There is no water presented to usby nature but what is mixed with some foreign mother and some I show and so intimately mixed with it that they are not wonly seperated. Mr Boyle first taught us that the private water may be converted into Earth by destillation. The exper muent has were since been repeated by Mrt Mangroof and Mr Godfrey rays that the rame effect well be produced ymufly agitating water in a Pheal for a length of time mearth formed and of the angellactions bolcomous and furty hund. This will account for the encreon of the banks of the Lead and for Islands appearing in places in which they werd never seen before viz. by the ocere: tion of bearth by the water. Islands grow or anemon most on thow ports that and exposed to the winds land nepport from this that water is in a writingal Noting diminution and that it will writing to amund untill the general bonflagnotion, they whose we cannot otherwise understand how this Botostrophe were take place, but this news to

mt, her petion ditreel the go thearth ataly Water Impli L pura a thrope whife for mylo. rater th ratin de nthe 1

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hunting too much the former of the deity to frond bourses if the find is nowtened or to well the handest rocks the water an have but little influence in stopping its effects. Same for from thinking that the water suffer any diministion on this amount, then is a perfectual reproduction of it from the futrefortion of animal and vegetable Substances, the this water may not appear in the blow from which it was alston the yet it certainly does appear in others. I do not sufforthat amylo fartile has been ereated or lost smuther breation, I donot up for that actual transmentation takes placed what the quantity of the water is demenshed but I was que the booth existed in them be for and that it is only uperated by destillation or agitation. Ill Waters may be divided into shleneral and drouple The Simple have been divided by the Chemists into differ mit Genera and Species os if each genus and Species hopeful b whinet properties but these waters differ only as they are mord or less friend, they and in other respects always the same Who murple on Dews Moin Snow Hail/Mero and ralled belestial worters) Monds Lakes, Kevers Springs fremp and Will water then and called Terrestral waters. The beles: tal waters differ according to the plan over which they fell, they and more frum when collected in the Countrythou in the Bity. Waters differ also in prenty according to the harow of the years, thus never water is always more unipune in the Autumn Man in the Spring. Their improvaties one ols ways either of a vegetable or animal nature, if this water nonfened it undergoes a fermentation and becomes

ite in Morro then him that the walls on for my dimense I me on the reform there is a ferfelic land of the first the the which estimal animal and regulable hillanices, the this lin # gold o could histor may Erich it in morths to interesty does of from molling I do not not found and ato a a as that asked bransment to him to him placed nter. The murdo tillens Lyfon and officies and care General and Theres hopeford Wuhan 40 wh moun to bolor ites ele nopo 物的 without it is made you a personal on this

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water

pure browsparent and ininfrid and modorous. There are two Phase nomena in fimple water which wo shall explain. Then appears an water in the flowing and humans showers a matter which has wer supposed to be full her from its color. It is nothing but the Pollin or farma fermidans of plants which has been corried Aby wherlivinds. They are insoluble in water and V and inflow mobile in the find, every particle is a ditient organized Jultanco and contains a perfect plant in Embigo. There is outlest Thomamon in Water viz. an appearance of blood. This is owing to a wast number of animalanto of a med bolor in the water. This has often alarmed Villages and Countries who how considered it as a preside of some terrible event Mi Walter tells in that in Lond ausons voyage round the world beformed a place in the Posific Osean on the East Side of South America whow the Water appeared of a deep red bolor. On examina tion they found it to be owing to an immens o quantity of Your, whom taking who round of it in a Glass and neffering it totand a while it becamed transparent, those were only some verous red libbules interming in it. The Red Sea werits bolos to Land. The Banks and rides and covered by nd Sand which by agetation is diffund throthe water worte give it an uniform red bolos for by taking up some Hen water in a glass some the rand melides and have the Water clear and transporent. We ard now to treat of Mineral Waters. This is a very difficult milyet to hting to it. The discoveries which have been already made on this Subject show us how abound our former openions

the first among from locke is a distinct or your egech Joseph lythe whit priving to a west weenfor of assemales the need of a mit books Weller teller as that in how of line one we you wone in this or writer than ! ntrachi Pyritis han taking up nown I ofit in a filest and Whale molwate wa rui worth 6 oler to cand the Manhound

funious were and how cantions we ought to be in admitting, promples the founded on demonstration. The Substances most rounning found in meneral Waters on ut down in the Lyllabous. We shall first mention the run ble qualities of each water and then mention the jock which tend to conference disrover the pressence of different matters. The first mentioned Mon is the Istrictic ocid. This is the only one of the ocid Solts. that is found in Memeral Waters. We descover the preseemed Johns by the taste which is somes. I why its striking a red color with the Syrup of violets 3" By its effervering with alholies the by the water becoming turbed whom the addition of a Solution of Lead in the Metrous said. In this bow the vitis and unites with the Lead for which it hoso greater attive tion than the netwous said and folls to the bottom The vetrolic said may avis from the water running Athe alkalus The Fofil is anot commonly found in Minanal waters. The vegetable is cometimes formo (in Water but this is only when it has flowed near a bed of pictored veget. table matter. The Fofiel alkali is reldom found hurd in water, it is generally combined with boleonious eagoth. with Earth of magneria, then and held in Nobution by means of the fixed oir afforded by the olhale Its presund may be known by its importing a green to los to the Lynnh prolets. 2nd by effervering with sinds 3 thy decompos mythe for ammonracum fexum 4th for solution of borrosin inblimate is added the morning will be fire: thatid of an onange Color 5th If blud vitriol is added

Kor goth horne muja is tele gnina doub with in partie 144 by the ah Ma North

the bopp or will be precedetated of a green bolos. The Existence of Calcarious earth has been proved by Mr Covendish Water may defolve colcarious earth when the fixed air of this lost is extri ated: but Mr 6 overdech hos also taught in that it maybe defished by our uncerting a greater quantity that is notural to it i heredit i quenally found combined with alkaline waters from which they organing their fixed air and which Lerhaps has been extrusted; from the olhalus by offerveseen el. They may be deceted first from the bolor of the Water which is whitish and of a flat unspired torte judy browning turbid and white and forming a wagulundupon hung preceptated from an alhali. 3 nd by adding a robition of Convoine sublimate the marenny is promuplated of a brown boc bot 4th by adding hitriolie a ind it it contains a hum columnous with a Seleviter will be formed and If it contain the Borth Magnene an 6 how roll will be formed if the both wor of an argello worm hund an allum will be formed. The both tit is an evaporation of the water. Chrystalline conthe on mobile in water. 4the Suflammable bodies Sulphur and Fold oil and found only and it is in bourhhand with bustom marely. that I have not Sulphur in the Syllabous for I do not believe it my exists in them or it is musoluble in water and not the hast partiels of Sulphers can be oftamed from these Watersin which it is raid to exect. What has been mentaken for Sul = Hun lig the small is nothing but the hund to liftle John oh Napha is found at the Bottom of Ponds which how Hack Bottoms, but of this I show before. Petroleum floots on the surface of meneral waters when it is inflammable Then then will unite with the water it is the the intervention

Meli fo Hetals. ate lut insolu don lo 1 6 1/2 mud to flower as a primite of the dealer of the forthway a so lihava is by the atten for delimates with the formed and of the minterior the south robby 1 patrol by Them h to the a Raplem affirmed at the Motherman of Plans andu

for alheli forming Soap. It is then known by a beturning took a white or yellow bolor and by forming a Lather when agetated. Athe Metals, Iron and leopper and the only ones found in munsual waters. I am well awars that I'me is raid to have been found in water but I do not believe it. It has been lately discovered that hou is robuble in water in its metallie State, but coundaring that it wor long known that won was definled or writed when upored to the our and that thou compound in which it was upposed to be united with the Etwolie and have fexed als hali flowing with them it news moforing that we hould have been ignorant of it rolong. Its while lity is and world by the intervention of fexed our or appears from a let 2 to written from mor Lond an aprothecong in London to the Howovable MV & ovendish. The fixed air that holds it in Tolution " generated by alkalies and balcarrows Earths and is not look from them by and and The mon relation runains long mohens and after the water is orpored to the oil Chalybrate Waters one known 1st by shorting a black bolos with an infusion of Gallo. Then and wome facts which show that more is colubled in muple water without fixed in This may be proved. by a muple ochement, it water tands on iven felings it ugums a halybute toite and will strike a black bolor on the addition of our infurior of Gollo. Know their solubility Juon in water we need not be surprised to find it in our mal and vige to like militances, it is conveyed into them Tymaan of the water which corries their nourishment Mushing a block to olor with ostrongent rigetablisis the most uneveral and infollable testo. There and few Mines mel waters in this Country but What wenterin enow

litated & bythe Mutro mina putate a alor is graper at to the air the highest Walnes of Thepre ow pt 13 hiton deminerate it would when the own wines he beings it the free Whan w und ww.y enlanch to ever in the retiring and

this therefore should showings be the test that is first employed pass the white of an Egg thrown into it acquires a yellowish bolor Huts foll a white proupetate on adding a robution of silver in the networks and. We have moson to believe that Copper is which who inven in water by the intervention of fixed six and its presented may behowing by 1st the green or blue bolor of the Water 2 nd by hung purpitated by by more and 3nd by arguining a deep blue bolov by the adoletion of a volatile olhali. If the Mentral Salts Glanbers and Common Tolt and the only ones which and firsent in Minanal waters. The Sauspect what is taken for a Glancher is an Ehrom Salt. The Muneral waters producing containing 6 prom Solt may be known by Mitter butterish folim tothe that occumpon in them 2 ndly their Bhrys He bring of a her agonal promotic form) The friend 18 how ralt is known by the adding a fire ad alhali which proportate magnesia in a white former 2 nd by & vapores tion The presence of our mon ralt which is the most frequent whoww withy the nester bewing turbid whom the addition I whition of Silver in the nitrous and 2nd by waponating I wherly of common balt is present wo will detain bules they tale. We are furnished with many morks to dise - wer the presence of Netre Borace Do. in Munaral Waters but we have good voron to conclude Mat Now and never found in un marial waters. If the Earthy Solt Selenites and Allum and the most anymow. The funt may be deleted by the water becoming turbid whom the addition of an alkali and a bolcarious may be known 1st by the white milky who of the water by

the grace or thou order of the Water Ebstor Huster this outs they du "Meta -us for Bolov n MIME - Vemitta of the principles of thetin 130 crows I'm in When isti au in good morow to conducted that the few my wn Ba and the formation of formation of the company in we have the

printitating with an alkali and 2 nd by a solution of Borox which induomposed. of the Botanhound Inflammables So at and a Hapor Sulphimi has been raid to have been found, this has been raid to exist in the waters because My how in some Boses the muell of it, but no Judgement ian be drawn from smell for no one would up. for that a techor sulphinin exited in a votten boggyst the mell is mular. hur Mar argument for the Existence of Alpor Julphunis in was los been duound from their change ing the Color of selves, but pritined exholations will do the rome. Instead of hepor Sulp. Iwould suppose these waters own their vituois and muell to the hurd to for this has the would mell and will there Ilver black when astructed from other dulatanes. The waters low all their writers by Nanding for a few hours of the Metallie Salts she Blue Green and white vetwols and found in Munaral waters. The blud is distinguished bythe morks of leopper, the green by thow of mon. The alkali Impored for Prufian blue precipitates the now of a deep the Golor which it will not do if it is in its simple tate. The White by I'm by Manging blud into white Situriol Ind by emitting a betrid black vapor upon the addition of municitie acid. 3 rd by having a fetid matter flooting on the furface upon the addition of viturolic and 4th by eva = brotion Bender then substances vital six is showings bresent in water. Fixed on may be discovered withy to importing a hungent took to the water 2 nothy to having which motion. 3 nd by its vendering caustic alkali mild when held over it 4th by extinguishing flamed

nd of a Ritor and the state of the state of the state of the est blags openes of mmon air, th ime with the same and the second second second toanen - laist by To vere Lister Mataller Sole of Mark Bar In alh sepulse the gree by the Water . alta if brought near its durface and to the by its her neces effects on animals 6th by a chemical dishellation in which untead of a receiver we should tie a bladder to the much of the Retort in which all the fixed air well be willested, Pyrmont water ower all its watertus to bixed six. The next blags of bodies are the Aerial 9 The species of airs are. Fixed Inflammable, Phlogisticated, Dephlogistical ted bommon air, Vitriolic acid air, Nitrous acid oir, Munatic acid air, thaline air & Hepatic tir. Fixed air Mephetii air of as it is some times called arral acid extinguishes flame and is ptal to animals. It turns the tiniture of Turnsol and of violets red Fixed air by heat is converted into vital air. It has no great attrac ton to verds but a very strong one to alkalics 1/4 of a mild Mali is fixed aw. Calcareous easther contain a lange quantity git The alkalies and the coleancons earths are rendered and ly its expulsion of the inflammable bodies Charcoal contains Hin the greatest quantity: the explosion of Gun powder is wing to the fixed our suddenly set at liberty from the 6 hore oal by the inflammation of the Meter and Sulphing. Fixed is rend ans mon and Zone soluble in water in small quant thes Water impregnated with fixed air homotes fermens tation at Savatoga it was used by our army instead of yast and answered the purposed very well. The Syrmont water owns all its vertues to fexed air, this water may In orthfree ally made. As to the brigin of fexed air. It is found nathwally in many parts of the World or in Wells. In this Country you ften hear of people being

Toward to Surpose D and to the lay its Januar our of and interest of or received un O shorelestic a blooding the the Retort in which all the first on well in willing is once all it was time to brack any. Storeat emember any Peterstee accelerate the leaves one colored of them will we stilled en and & the frater other "meed air Mepheute were our in heart examinable oute which her ill has no great mittho albeation and the eateancons cartle and rendered the expension of the enflowerenced to lower which is illed a do the install quantity the orphisms of Gun paralas is the feesed our anddonly sites to be builty from the E ally the inflormention of the retor and help him had ette, A

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filled by going down into Wells long negletted hence the meeling contion of lowering o Bandle before a person at: tupts to go down the Well for I before told you fixed ois stigreguethes flame. It is found on the Turfan of the ground in many places. The grotto del 6 ani in Italy near Mas ples is anot famous for it. It mus two best about the whow occording to Keyslar. Junpowder cannot be find in it. Defferent animals how different being this of time in this air, in the same degree or they do in an exhaust Anewer The Thermometer and Barometer and not offer, toby being placed in this oir hurther Source of it is from formenting agnoss or Bear Wind de Unather Louved is from Alhalier and Calcareous earths. It is sho produced If five and the breatting of animals which prosefus evalue the for which mere a with rommon ser and forms fixed is called also phlogesticated by D' Preistly. But in my prion fixed and Phlogestreated oil and of the nature. Most from the Lungs of animals is costanly of the same nature with fixed our, it having the rome effect outher Initure of Turnsol. The Brath of animals ohe extinguish In flamed and proves deadly to animals. you muitall how heard of the death of the English men at bolanthe this was owing to their breath. Improw the numerical than harts of the System and thrown off mexed with med air. This may be the of which mixing with stal oir forms fixed air. I nom this I shall niggest mafter that the und of respondion is to generate

Mp about by going down unto Halls long megleclish I MACK receptory contrain of lovering a boundle Enforce a Empto to go done in the Hall for I hopen to be your feerer stagginder from the found on the Turport of the grant 1. peropo come places. The form the del & cent in Stally were the tu Blot There were formers for it it never the black along the your suscending to Regalest grape water carmet le in it Tappeant amount blow outforms for for with a this air, in the sound degree or they do in our reduced may in us The Manner alex and Hamer at fire the sty being placed in this sis himstles painted of the after angen which represent to these Him I Fill his atters boursed in and thater and to alean sour conthe It is she produced most a and the localing of ansurals which prosper coolers A which were as with common but and former famely seting istled also phlosopotisated by Interestly Bird in my freed and Philogenhearted out and of the nature thus were from the species in your sound to their you want 1941 ation with fear on it having the ione of the outer and Ah isters of Francol. The Amosto of an inale stee cotinguety Harmed and proved deadly to animals, your unitable and have of the death of the English man of Solandy Mes. his soon oring the their lineath, Southour the vagnerand than finite of the System on therem of finesed with seed sin This may be the of which missing with Tayon bound and those this I hall mayer - algu morasta, That the und of respondences is to generally

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hat all bodies about to depolve by putrifoction avolve the fo which mixes with the vital air it meets with and by their moder meeter produce heat tixed air liherviso existi with her spinotion D'Mo Bride sevoved this. you yournbus may serow it by an early experiment. In the Morning. Harthe blothes have been well changed with the hershi ston during the night if a randle is introduced wis thou it will be middenly extengueshed; from henew somay in the unhealthy lendency it may how to con of the Bed offer getting out of that also shows the necessity in Thouging the luner in Tutwid desonders. What one the mu of fixed air. It Printly hor herow that its use in the natural works is to nounish vigetables, therefore truste was houses and supposed to make their healthy by satisfy the fixed air. Tome homour have maggetted the the unionmon such ness for then few years hort was owing? to the true which formarly nevrounded their 6 ity being with sown by the British army. This I think is going too for and the Schnefe may be deduced from another bound wow ortificial marsher have been made and thered ore wo trues to obstruct the Massmotia from Schuylkills mortes. I am unduced to make this souchestion he: and 50 or 60 years ago no fever of the remittent rutemittent hind wend known within 40 Miles Ithe Susquehanah now the bountry hos hier client they are very Juguent all round within 10 Miles of the liver algentleman from Chester bounty unformed and hat nine avillo were exected in romany bloces Intermit

two a they has want product of the fill of the continued ach or Dhut 1 later have been book changed willy the perpe inna during my the something if a countrie is continued and Mylu the for The same has letting landering it is in all house to ed offer of thing out givest also where the exceptiff id fever emma ridari Homesty has themen that were in the rity to world with mouning marketeller than the part of me wistr who obt ner and my fromed to months them had the afort als us winger frozenich for your bern droug borg won i gens muna Seknep may be didnered from another boins mofit midis god the true to shoten it the Meaning the t is i

tute and mand common than Jonnerly. What ond the effects Hund air on the dystern! I exad oir is und medicinelly or a Indontivo a roused enoull quentity is extracted during digestion Whither heaveness after a full meal is owing to fullness of the Homach or the Sedative action of the fixed air Seamont deter of mind but probably both may confine. Iwould rigit pud six or a medeime. among the methods of distroying fixed in De Holes hor taught us that Tinger is the word offerties low the property of sprentling the floor with venegos in Puturd Severo. Inflammable air is the formeted with hum sis; its sheufing wavity to com man at mospherical air is or 1 to 10. If a forme is brought near it, it will take from and explose to How he obtained from metals by the affermon of ands, Ites and forthe purpose of making Balloons vise. Roufind in also used for this purpose. The Inflamenable air for Boly bour is generally obtained from ivon felings and the Petriolina Inflammable air will not med with water. Them and other hurus of it burides metals. Some caves notunally contain their abounds in mines In Estimal air is also inflammable, we have all of us no walt frequently heard of horrows being warmed by introval fires which fine does not extend to the bed dother; is it not hopulate that this may be owing to und communication taking Ilace between theintesti to and the candle upon the herrows going Taphlogisticated in of Presitty calledby Lavarnier whenath air and by Scheele Empyreal air in in

推动 ated by the m the great staton ld the is mupo Red 2 stante to the sin is also ingles in the little in the side internally towns a father angered the forther for form followed for a which from does not softened to letter, is it not popule. Hast this . bally action taking Dance Dan more are and the wind lo upon the and 3 4 La, M

my opinion nothing but air autively huve without the admix Tun of the other Sheeren Zais. From Prestly Duroveries it she pors that not one 4th of common ois in puno or dephlogiste. exted. It is the Palmelin of life Animals live & lunes or long in it as in Bommon air. It is very oschelinating to thow that heath it and a lighted taper when unwessed in it will have its flamed very much en evened. From the Experi wents of the ungenious Mednguhong it apprears that then and plantiful natural Lources of it. It is moreted and wereted by all vigetables exposed to the Sun in the day time hund the marow why the oir of the Country is somewh more ashelarating that that of the bity. Hence their con tribute greatly to the Lealth of a bity and may be called holth mgans. Caro Mould be laken not to have so great a number who solistomed the Lafrago foir or of the Juns Rays or they would thereby become the Sources of dinous by neurobring the oir impure. I theographicated oir may be obtained from the oir impured. With Red Dead, Red prescriptate of morning to olso than I vitriol, it is most frigmently obtained from the two first. Mogniticated sis is Empyreal air changed with & . It at : tinguishes flame prover fatal to animals and decompos: Mu Line water, henew or I furthally before observed it who bably the same or Fixed air Common air is composed of 4 sort of Dephagestice led and 3 of Phlogesticated airs. It him win wontains many impurities all substances capable of flying about inthe air enter into its boxonhoration, or bourtageous bothelis, Masmata mix with it; adors of all kinds

a seathing but see endance for a con that Land the it and a lighted tope when unwound in it will ti six Affans to plane oney much en wiened there in the Expert to of the ingeneous All bugunhory it approon that plantiful insternal sources of it. It is neverted and y all originables employed to the him in the day time weathy to the Leader of a dily and many his earlies to air employers is the agent with six many the obligance The Red Lead, Red Myserfelat of in young to olegither I withough, it is never the frequently abdained from the has find. from the form on grands in language or first button in from whom fortal to amende and the dimed in other him is an I producedly before when physleadly the round or Fined air of the particular to Manuel F. of Allerger Eventual airs. It his way gray unpursition all tentertering copies leds of fly the any water was not a specificación per la condesse with the state of the same of the state of the same of

aquable and disaquable. It is thereford very leterogeneous. How the artificial airs I reper you to Books or I have nothing new to voy on them. I will just observe that May new to me to be vary unsufavily mulitiplied Vituroli said ois Melvous said ois wounds be particles of their meditanes floating in the six. Aporti air is found in Mhu wal waters. It is probably water our bring with of Harrowgate Waters contain it in lange quantities. animal Substances

men and the color of the support of with a margine of the state a shew in the want for a sent placement that they were the Tenfrontly manufact fined times the gend air Milians would aid Southeles of there waterlanes placeting in the sign around in the real or allege the party with all winder

animal Substances We come now to consider the Chemical history of animal Substances When a Bhemist takes a view of the human body in a living state, the just thing that stockes his attention is it heat, he observes a pour while ywhich this is preserved constant and uniform while in health for your 80 years without enerease or dimention and is no ways altered by either blumate or Leosow. We another more merproged at this or there is no Matter in Mature that bears the hast visem: Hance or analogy to it. Many thypothesis have been framed to account for this heat some of which I shall mention with the Object tous against them and then mention a new one which I think Iphable to exceptions I Slevenson in the Medical Efrays of Edurbung Las taken a must deal Thains to show that animal heart depends on a permentation toking place in the blood of the putrefaction hund but we might have question whether fermentation eder takes Haw in the blood. The putrefactive farmentation certainly new we roke place in the body untill its texture is no distroyed or tobe means tent with life. Milman in his treatise on the lurry has made this evident beordes when this frutrifaction westake place there is is no enercase of head but nother a dimonution of it and when the patient dies the treatis entirely appoted. another objection to the Heat of the body bung aund by purtrefoction is Mat the heat wolved must be so padual or to be defrifiated as fas as it is generated: but it hos hu said that the generotion is slow it is routantly kept up Ith aliment but if this were the bose aliment of an antische Ensture would wather demenish than generate heat. It this ment the bann of heat the heat would be in propostion the quantity of matter, but annuals of the same order whatever

2 Slep Et wind takes a were of the human healy in a houry that his ot Mach of that stooks has attention is at head, the alianus afrensahle of this is fundamend committeed and misporte which is health for wand. o The T y withour blumate or steerand. He and the enough regular at when there is no Mother in Making that bear the barret ween we a simply to it Many Hed allies Trees have fromed to it for this head some of which believe werething and the leges the her must there are more than another a may one of which stand tou of we are in the solutional topings of Entereding has to have to int of hains to order that discountie to ease defend on a few reching pleasable the book of the fully about him Letion might have question whether prince to be so to the might have mout, the blood The Justing outras former and the board it 1940 would plow in the lody untill its bation is no distributed on twpos timt with Efer Milanan in his hundred on the a se this andert beardwarden this faithfurther that es exemples is in me survey as of head but nother a de in ua 20th of befored , sensether objection, the tet. Head of the best of the with hund by the trapper train is also it the Load enclosed mesent be anyon and and to the ten define tradent anyther in 1800 games attent to the Sandand any the formation the the personal time of an is a some it is the all the all the second and to the Edinion of the of the inseres ofthe best of all and to of an antiset It took someone was the Animous of the strong with the some some of the the production of the second second second second with better grantly of mother hast amond of the same son

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whatever difference them may be in their size a livery's profuse the rame degree of heat thus we see the same agree of heat present with oliphant or in a small Mondo. If this were the Bours theat Me heat would be greatest in contagious and Lutwid dis woods and left in inflammatory the contrary of which tohy place. The theat in inflammatory Sevens is greater than we = two whever in mitrid fevers it is below the ordinary Imperature. So that we may I think rafely conclude that the heat of the animal body is not generated by a hus infortion formentation. another toy potheris is that the fuction of the blood against the solids or Lides of the refule "the 6 auso of heat and that heat is always proportioned to frection or owing to this alond. This is only a specious logument, for in order to produce heatly friction themes, four of some of them should be wought and no fluid mate, to interposed but now know that the never takes I law in in the blood vefiels as both the Boats of the arteries and the Good and extreamly moth. how of the Substances also should hand to round point for a note in a pully will not gera water the hast heat menther the blood now the wrier con havid to be at mit. The velocity of the beren lation is not infficient to produce the newpory degree of freety Min argument about is sufficient to refute the Hypothus 48. But Dr Martine to uphold this doctrino rays that the Ener care of surface in the vefiels against which the Hood during compensation for the Want of vilouty, but lowing this to be the war in mall refuls, get in yels of the name Doze wow the bleast and thow

the was in many of several of is to have the of the who a to against the well do or showing the works the out for the Course of heart and What heart afour the faction or overing to this about I there is only a spaining the thon hi Ivan said to be at mot. The meaning of the direction in the te Elment to find the war when we have the former of the from the form of the sent to make the first my ho. the Markenin to inthood the sortening some of the or heat be bur war of my forces in the profes to against which the Air land derve confound for the Want of maring hat you plant the letter was in misell with befold of the court dept was the theory out of the

wow remote the blood moves to with different digrees of Blosch thus the motion of the blood in the pulmonary artery is to that in to acrtic system or 5 to 1 but wo no that the heat is excelly the some in all ports of the body. If blood is agetated for weeks in a Mheal it will not generate the beat heat. I man inded when there and near becoming butter will underd be hot but times not owing to the Fretion but to a decomposition or homing formentation toking place which is necessary for the boolution of the butter. Then organizate will of tout convince you that an unal heat can not defend infriction. Than been the more harhenlar whom this Typo thems or it has been up held by some of the first men in Europe. a third Hypothesis in that animal huat depends monutestine motion of the somponent haste of the bloods This they thought depended on the defferent Dizes of the Lostieles Int this I want believe or it cannot be made to appear ever wen probable, for water may be agetated ever so long in a Thiol with Marcuny or any other liquid and yet wo shall At hable to excite any heat by their metertina motion. The theory of an unal heat which I bigliows to lay before you is so follows. and here Im not primise some fropontion which have here proved in the Course of these Lectures Hovery hody when it howth with its to generates enthes latt or heart and rome both Ind As is descharged from the Lungs of on male during improtion, this wo supposed accounted for the Generation Hered or if you prefer the term phogesticated air. wolved by heat hast with their & this being like a Vivi

I have been the iloud weer so the with different degrees of Though mal Hos The mine of the factor of the and police described and union becomesing factor will we will be to the here pe the most owning to the Freehige but his descriptions Jungs. beginning formentation toking plansment in neaphort g au o mon In Enclude the vir and both one extrugueshed if the will eg to A and quantity of the vir is encrosed the theat in both Chewis enevered. mpir the stry showing softended on the different files of the points nd for but this I commot believe so it commot his musde the opposite in the over perhability or mater may be aspected over so long in or M Minterest May way or any other legued and get us of the mon of had been to any hind by their witer time & Pul thong of animal heart while I linghous to lay before

when. Thus things bring primined, I go on to ray that humal theat is occarranced by the fo deschanged from the blood in its poliage thro the Lungs by respiration This most probably is the most of the fenal cours of Reshino tion and into this question all the Changes which the blood how been supposed to undergo by melunation vers be themselver The Lungs may be called the pinchlaw of the System. It how an analogy to the theat of a bule many feve. Lake ommon fine the heat of the body is produced by the As bung ifthe on deschanged or repended. The Dependence of the of in 1sthis wing to the constant Occapion of ois Hence you may wer devitore d how en er en en er com the heat of the Lody for Kurspination is more frequent by which more of the of in whole from the greater accomon and velocity of frush ais. The low is the ramed in a fever when respenation is encreased His unmeternal whether has the reparation of the fois marround by heat fermentation or the addition of third Intetand . To account for it . Brawford wiphous that a third Substance is necessary and this he supposes toludephlogisticated ais. When this is taken in he suppos no mugh eletion attraction takes plan, Mucho is throng Throwning the heat while the dephloqueteated air is When into the blood, it may be so or it may be from of brunen tation fine Generis. The blood may probably own the red bolov to an absorption of this deployer treated our "any whitames or be how proved hereto for get his and bolor from an absorption of this species ofor

between in concerned by the of many and from the ed in its propagather o the durings by respection and presented for the somethy the found comment of the house of with their granters of the 2 their granters that is nothered to involving by middle when we down them in truf humpinesy to in the the principle is of the of the stand st is into you the street of a bushing form Leter the same the heart of the body is produced by there for being longed or when that The Report tion of the of in testing hat first to the officer of fore of their state with of any landton is removed for great by while the reasons of thirty is which you the greater and related of freely and the mal b The rained in a fagor within my prometizin is one mount mial more referred a stant the representation of the store mond by hast for a tation on this addition of or a tile 1. Andrew S. To orient for it brown ford wifeford a think hildered is need to see this him he mappiness model to be defelled and When their is taken in the wife is myte aletin attended when the shoot of in Meading this hast while the dephloquetisted on is Mefin to the thood, is may be so or it may be from a why has he go of ye for and haring in and bestow to our about him of their suffliction to at so he he had and and reported ground company of many Min and Bolor from an absorption of the speed of

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our lead and bolso Mar of vitriol &. Mitin which contains a large quantity of dephlogestreated air gives a red bolos to medit, herhaps therefore it will not be suproporto conclude that the and bolor John blood is owing to the absorption of dephloqueteated dir Then ove two freets to repport this theory that we how given formal heat 1st humals that how we lungs and which do not respect do not generate heat fish how their heat but two or thou degrees above the water in which they wine Inother rame is the bow with a tatus in Utano becaused & wer and that no principle of heat within itself but defends for its head outenely on its Mother. It no roomer bruether than fountain of vital heat is opened. This was fully proved by sweval expose ments made by Fr Black. This further our mount of an unal heat. We shall next proud to delivery the history of animal hadis. humal bodin our deveded into rolleds and flueds. On achemical analysis the Polide and found to yeld, water latte Diland Borth. The falt is a volatile alhali. This volatile Not in the only Boroundonie What ortanly sever to distinguest animals from vigetables if we except In an unal oil which has an order hundies to strell and affers from that of orgetables. I shall first broot of the nature and compose tion of the Blood This fluid when were lating in the hody offers to be a while homogeneous map but when taken from it, it morely by stagnation divided into revenue parts. The first that excapes is a habiture or Vapor or soon or the Hood is drawn into a veful. The exertine of this waporis broved by its bring discerenth to the Eye and from the

to or is oring lather alway plans of defillinger day this has factor to replant their there of the street going maken as not general deatthe hours that has 16.74 there suggest alson the winter in which other mount nis on ate by toud aline in water and has the facts This finished one wiston answer of the should and the state of at it a pleting whoma analysis the totale and found to yeld, water of Bouth Mr. talk in a wilatele alhole This m. 01 tale in the only burning alast estermine Port a distinguish aminole from ingetable if indula the and new unal oil which has an ester founder to the the wtha ylobie ye granish way and way the windy by stogging there described into several party. mark don't find that everyther is or harbitises on thepart or wood or the ed an lood a dubun side a enfort. The grantmen of their natural board by the harmy descenting the E the E yes and prom in dela

right of the blood been dimenshed after its dependation. The montity of this to obtions is defferent occording to the heatin which the Blood is placed or the Surforce of it that is exposed Uter this the Blood sepenates into two parts the Seriem & frapamentum. The bropamentum is composed of med porthe and for tough gelatimous maje valled coagulable lymph. This last fours the buffy boat in inglammatory mores and which is generally looked whom or morbid. but. to always present. The wagulath Lymph may be obtaind whent by houring purd water on the blood laid out floth and this working away the and Globules. This a plow colored fluid and appears homogenous but is not mat it coagulates like coagulable Lymph and und ffin in halitura one very reolatile wapor. The blood therefore nomposed of Red Globules boaquelable Lymph and www. Other matters may be long to the blood but here on the principle. The ord Globules bogulothe lymph and revenue and high different byheat hemen thing will never represent sportoneously in a heat equal to or is whow that of the human body Me Holiters may also when but to keep them defeated befored, or the bloods munportant Subject wo shall connotes it fully and tall now descend to portion love and first of led Globules. This wind each supposed by Lewenhoch to supposed wint of in life servine Globules on which he supposed the bolor to defend but this doctorine hos not bun cons would and is so very arroneous What it is rejected from Il the Schools of Mhyric in Europe. The med Globble Globalis "they have been called) have been demonstrated by

the the east separate unto two for the san Hume of the m The last from the tengthy book in inflammations Hoo Mr fo austri wite n July ulis, lu ti all any " sily us other weather may belong to the blood hart vorhe udoed put n defrol agra fr tiele gulat May Atter, -v. 13 whis planted the called have been dimonstrated by

the ingeneous MV Hewson to be neither tyloticor mor tenticular of flattish of the Shape of English Shellings. This I had the Place or of ruing with an exullent means work belonging to IN Howson himself. I som hum the common appellation and ytoline the vid postiles would be mone propos. Why to set the ord fartieles continue repende from the Mer forts the blood is long? I answer they one not musualle with to other ports. This is no new food in Channestry. alwhol and to court i alhali the both fut rogether in to fluid state will stunite with ouch other Moyou orgitate them ever so much ow uppose that it is owing to the only nature of the ord. John lis, but it is count be owing to this for Mohol and mustic alkali will continue up mate Monceller of Huna con tim any oil. The Ked Globules and no this of an aqueous In oily nature this Jafon inter from their being so mad ely was hed out with water and and diffused in it. They windeed ruflow mable and defeabor when helk over the wbut many substances he sides vil and unflow mobble and defrolow when held over the fine Mro Many do not contains show title of oil Me Howron und to show in that the banquelable Lyputh more vendely look fine when held to the blogg of a boundle and was mon in flammable of than the ved Globentes and us one imphoses it of our oily Nature. Bandes they will not unite with oil. The from question is to what is their bolor owing? MW Denar nich & four it owing to two or three Globules being laid together which he supposes on whooled when sepenate but have the That is for quanted that they and buticular, but no dit

and the second second second second ed the Mour wition the ord for hile would be many from the od so long? I simount they our mother walle in the posts this is no isses for in Chemistry. alleghol and Human allose the tothe fact to gather in 12 flaid state third of Es mitheres h other the your organisation themes were no second www from that it is owing to the orly nothing of the orly afrigu tent it issues of he seeming to this for ethodol on much alkali soill easter wrife out thousalles of their in money witor in I. The Kind afterbury and nother of an aprecion instant their dayles wife from their hering pow w don't with water and and alffrent into we are sufterer malle and defection selen held over the met to decises of oil Mr Murrow and to their an that the the a Bos yly.

of II. I will have a Describer a Bornel is aller wheed that the greater or less degree of ordares is influenced With ioneration of the med ylobules; there we find the blood at to bollow of the regul of a deeper med there owing to the greates forestion. No supposition is more probable thou that of IM Lowerier who repposes the moduly to be owing to a western of det bloges treated six with the blood: the andlogy that Imentioned be form of med land de is much into favor Muthind questionin what is the un of the and Glabules? All that we can offer our this head in only conjution. They appear to be apagued to heap the boaguloble Lymp deffund which is my much de found to we exte, to ofust naution by retaining the more fluid boots which neight otherwise some off by the munetonies and to eneman the growth of the body, or they are writined to the while which they may clougate. Howw now to had of the boaquelock Lymph. It is spendt to promise it reperate from the farmen allow whomeunts made on this substance on unor tein and at decision, but we how a fluid sublower analogous. toit / the albumen ovi) on which we may make suferie ments Both on roagulable by 150° of heat, both our offers thin a number manner by a cids and alkalies, Lotte on to foundation of the mount homent of the ancient. They After however in wome portrailors 1the albusiness ove more mild and claud thand the eargulable Lymp buring left ratine barticles than it I welle albumen on were concretes in the bold but this is owing to the water which it wortains. If it is durid and afterwoods water hoper proportion of water added to it, it will re = ,

oriens who my from the order to be oring of def the operated on with the thought the on Extended to form of red loved the is much in the fourth grantions what is the own of the and Expludes I all on offer on this has a wife competence they appear I depend to we water to apast wantion by rites more flines haster which might otherwise your off towns and to an ensure the lymonth of the hordy all your first the inful in the form of all 1. Bu the see and worse labels by 160° of land, hath own of michon mainmen by a ride and alkaling, hather one nauru formation of the moneral want of the outsoned utw He have in many fact a four 1the aller when our and the and me the and chand the england by higher portro ing life ration has the les Alean it I callle allowers something the hold had their is couring to the 1884 referrable to writering It is donied and afferment other report proportion of water added to it, it will rea eton

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H. Il. I will her and Insuch a Board will ale main flied in a degree of an emal Lost and it will comente wither Bold . This was first proved by Dr Butt who her blished a wangewal defertation on the blood which is the found whom of all the improvements What how her made on this heligent for these look 20 or 80 years. From their was whenotions Jarger that they one the same matters one mally and now the rand purposes in the animal honory. Letthe dependance can be placed on the opo porous of Buff in blood letting. The approvame of the wage lable Lymphthus reperated has been looked whom no mark of inflammation and some how even com idered it as the bound but the appearance of ten dependent for sendential bermin stances. It som offord resud mogranis or diagnosis unlip wo attend at the would the to the state of the Johnds. Blood flowing in a long Mran into a norman bylunderial vefel her mon this Muff than when it flows in a narrow stucant into a broad refuel. The Saturation of the blood afterit i drown also ruffrences the appearance of Buff. When it in a woom plan a greater quantity of thatter flies If and the med Globules fall the bottom and a longo, Insportion of Buffmaker its approximen. The materials John which one composed alrougherment the opposes men of breest, an easther reful shows mon of this thank my other Mow also affeors in cylindrical refsels than in " flat ones, a soup blate in which harrows own fre = quently -

ughia bod ! heurs us bec mlable dayin to the state of the locals 12 local rand third y had on olatile eid of wh tothe lan nt bo wit: mutty bled, will show no Lymph a Bowl vice show more than a plate. But after all Diorafels that caaquilable Lymph spears in greatest quantity in inflammatory fevers from the enemond stion of the heart and orteries rendering it mon completely and and less aft to retain the med parts, or it may repenation the body when the partieles of the blood one with sufficiently wied and the union is less firm I when there is not a sufficient agen of heat 3 when them is a metationer offlied which has shonger attraction to the Lymph than the other hothof to blood Tolypi an formed and themorrages stopped where the coogulable Lymph meets with rome and Sanci tout badhens. When the arteries are dried on account of this mucus being abraded, the Polypus is easily formed from the wagulable hymph adhering to them, this leads us tothe woofdrying applications in Hemorrhages and in this way Hour and dry but Hop them. In third part of the blood is Serum this expens to be no thing but Salt defoolved in water. this Talt is of the ammonia alked and is compand of an alkali that is the ram I with to volatile alkali and an acid of a parkenlar kind called the acid of wome. It tends to heath the coagulable Lymps wow solubled in the Samen. The halitus is the more voteny and volatile hart of the Levum. The boaquelable hymph mexad with the Serven is called by Sena the Leven by deto the proportion of the throw parts of the blood so thing can be raid with precession the defferent in dife fruit bourtitutions and different states of the Lystem Winder it is different fants

upto ud as then a ought when the particles of the Thoso of our will englandly atefor musta Told for an formed and Benominger stopp litoo peret no the mt in not be lating nao m yeary weldered and is companied. tothen munter starte in. Sy. dont to tal

waseparate state, udeedit is of little boursequence or wo have superfections by which we can till when the proportions order troyed within the body. We shall next consider what other matters enter into the Copenhoration of the blood. Sound how nepposed that blight was present, but of this we have wrotes fortary muchy evidence? this opinion much home were from ignorano of the nature of the blood. Whather un mustaken for bhy le was probably nothing but wo igulable agenth. Chyle may be present the not herees alle to our senses. I our of this openion or will seem 1 tobe secreted from the Chyle. Do Haller and Servac whose that thensis a mereus or gelatimous Tutstame present in the blood. Dottaller infers this from our taking wo much vesseid and gelatinous alment, but this is whoof hears our food is quite changed by the as = functing and degestive powers, before it enters the blood I Senao supposes a mucus present beauso wo can ignered a greater quantity of mercus out of the follicles of turbomoch of o dead animal than can be supposed to be bug to them, the supera bundant quantity be thinks must some derectly from the refeels, but no one not requarated with the Size of the Yollieles and therefore annot determine what quantity of much they may t outain. If, mondly, ever so lange a quantity had being hufud out it do es not follow from them that it sxist. in What state in the blood for all the bentions when first made and thin and worteny.

Here a at que tours by which is in tillimite . the fine y ex und within the lady the shall west consider in with attent Wound that they so in former to have being this williams uthat flood taken for bly les mos probably withing little d? 7. aganth. Elysimmy to present the not be llya a tod for in the Clayler Do to the could it was looo and m wind and greater and administration itum ing and degerter parano, before it autim Dain in no ha operator given till of mercin out of the for inth

Is there any Vil in the blood ? We artainly take in a most quantily of oil in our almost but this is no proof jts exerting for mally in the blood. It to allen facts to from the formal exertence of this oil are ropers and so Il attested that we may rafly right them. I wound born that any person has certainly seen oil in the blood Hour however in my opinion axist materially in to blood. another question is whether is any our in the Hood? Fixed air certainly enteres into the composition of to blood animal bodies. But what we have mean is whether air in its elostic state or in an intermediate state Intown fixed and elostic six auteus into the Composition Ithe blood, no have some masser to prosume that Adoes We have moron to believe how that water contoins on no uni elostie state or may be rendered avadent by plan ing it send as the ashausted receives of the les Pumpand form air is evolved from the blood by putrefaction. I Mouro has proved by experiment that oir mally does mit in the blood, he made two ligations on the barted interyof o dog of some distance from each other, butter ut out the tied part and three it into a pail of water and olsewed that it means on the Surface, he then took Ithe ligatum from one and and ofter howing again ted the thour it a second time into the water and then ob = word that it much to the bottom. We have another exper mment to provo the exestence of oir in the blood. If the bood frages unddenly after being drawn moll bavities

I to conting for molly in the blood Stop bloken for alle love of French and containly anthon with the round coul leon mar en heer out the trid part and home it wite a fail of rates drewed that it wisom on the her from the thot of maps from and and and and and antital of my If he thought so recovered himse enter the moster and to wound shat it much to the latter with have on other suffer Red # Mos House lind ingeriff after friend grown mong mong for 1

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will be observed in it which upon being proched under wood to with a fin send up air which appears on the very faw of to water in the form of bubbles. I wound finish this Sub! jut without observing that there is one hast of the body org. The allular membrane that necessary wontains a great mantity of our in an clostic state. This workwood from, Em physermas which happen in every part of the body. I ungue that air is secreted or poured out into this part and that it is of great ines Istance or money desenses perhaps which around yet properly distinjusted and owing to the different states of this secretion; or the exup or defect of it. Howing now furthed our Physiological history of the blood in a natural state, I am next to consider the Chemical Intony of the salmed or other Substances that antes the blood in a moved state. This is a very impostant brouch of Medicine or from I wo leave the changes the blood is capable of undergoing in hieros bhen estry much be our guide throthis Cobyvinta Boos and lead us to the knowledge of truth. Physiologists und Pathologists have for about 2000 years placed the conwood disnover in the blood Most of the Systems of Physic till later by have been founded upon the Hypothitical dostonie of the blood being the Sest of all diseases, so universal ho, This opinion hun that when dramatic writers mean to vidently our Porofefriow they make their bhanceters talk very grow 4 of Bad Humos and Bad Blood. Even Musses will tolk "winly or wow of us about hurging and watering the Blood. I woundt unagene what unduced Physicians to whow that the nat of discours was in the blood or eter

with h lity. Th Hofban by of our in our closed states. His mer from enfection list loffer in overy part of the looly. jut or bed con hall for outene ud rue rwail fore se wande dyono and Particle gite hand for along 2000 years placed holy, w? the that Most of the Splene of Physical Call Call Hina

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the only hast of the body destitute of thos bureinstances with under it hable to derivous or it has aneither Termbility nor horis tability. Till within then few years Physicians himew little mothing of the notion and bophontion of the blood, till De Butt of both lung good a good account of it, which was corried to perfection by M'Hewson. All that I shall aim at now is to point out of en of the mistakes that have generally for a vailed concerning different matters existing in the blood We shall first treat of the qualities of the blood with vigand to bouristened, this we know to be of a meddle digore between Was to and mucus not roplined or the one nor so viscid or the the When it grew thicker or more viseed but or was raid to privail and it was supposed to cours discover which were theriford raid to anise from lentos have cularly beverof this minion you will find fully treated of by D'Boerhand) this desonder was supposed to count in too greats quantity And particles or from the boagulable Lymph coving in mality, which may depend on a particular alument or mode glife. In answer to thow who suppose lentor owing to two. most a growntity of med fasticles, no one can occutain the has proportion in which they exist in health all bolo whations made with respect to their exceps or defect and uncer tim It is very difficult to promes them repenate from the other parts portreulovly the wagulable Lymph law how supposed that their proportion night be determined by in the specific growing of the blood mod ylohules or there on the my hant that one specifically hower than water, but we

Edward good a good account of it, which Joller on few quates quantity god partilegue out our contours. Boat down proportion which they exert in health all ball elating a made or in the weeks to their or aft or defeat on I comed 730 whane the other points providentlandy the conquilable deprifile page for it have mapped it their their propertion maybet for attended by the first - property of the party - a place of the factor of the factor

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moner obtain them pur enough. We are aprovant how they wo formed or what alment produces most of them. In general to abound mod in healthy vigorous animals which howesting finilating powers: but this rule is hable to exception, thus it and maylabules in the Chief in low which has no strong ofmin blug howing they ow lakewind in quatertoquantity in bletter in persons and in ruflammatory desonders, but they one not In a proof a lentor or they are the comquered and not the and of the desonder. dito the morbid visidity being nated in the coagulable Lymph, her new difficulties onis unless would asertain the quantity of it in health, this tempera Two of the air, the velocity with which the blood flows out 1the orifice and the time it takes to caagulate ke we can never the then form a judgement of the proportion of it in due we of any thing can deler min the spefer tude it must be the Baus shat under them. Delganhous roys that inflow notony fevers alter the mexture and not the quality of the bood, get D'Bullen uforms ur of an Epsheptic hatrent, whose blood afferred in a depolard state one day butmon bring drawn the next day it had a Buffy appearand or We boat. De Ganbons supposes that if the quantity and mality of the nount mant is enercosed, at the some time monipanced with a vigor of africulating powers the quants of congretable Lymph will also be encreased in prosportion and but the strength of the Solids is evercosed in propostion mahened wint discore, and even infloring a greater quan ty of cauguloble Lymph with weakings of the Tolads

the ex wholh wofan thear bagul Il the duces be a Dand the time of to the to compare late he was me. mphos endy ment of the properties other 2 no my hutt Thall 2 gms ther, mode wort consequeled by any he with weathing of the for and to

wton the coagulable Lymph is so much disposed to attract and wrongle the watery horts and thus aproper degree of fluidity he Htup in the blood. De goulins in the 3rd place infposes that car tim melistances taken in our diet will eneveas who quantity of the wagulable Lymph viz. or tringent Intronces and spirituous liwors will have this effect, but no hnow that no astringent Jul. tance of any strongth con enter the blood but by bung uguted into the arteries or views, thus und end it would rougulate the Hood and cause instant death even and and alkalies will wot roaquelate the Blood except in a concentrated tate much Upill they have this effect in the body or they never enter the Hood except in a very deluted state toher in the liver home but replaced to originate from the coagulable Lymph, but tow and generally produced by a too for mo of spuritions liquous which and of a more cotic quality. Open has been suffored to when the round manner but its oction is roughered to the woons extens. Even acid when united with metals in white That they become most setive do nothing but should the blids and tend norther to defeater than coagulate the fluids in earth will not enter the blood except in a coline state t and then they do not coaquilate it but walker their it. But what shall we ray to vescid glub nous aliment trodu ung o greater quantity of this wagulable Lymph with Thoushow tathes so much of? but I cannot conceive that the o mostances outer the blood in this state and hus produce Lentor for they all undergo a ferricultation in the Itomach which totally divides and allows their tien The and then are much deffund previous to their

floo Control whosp ald he le Libro is the while to Horo mits a مام مرده

attaining the Map of fluids. How many noor hearants in this fountry who live somuch on Indian born / the most visit of Margetables) and never troubled with this encreoned viscodity! with blood. The Formacia form the gratest hart of the food of mankend which and of a very visued bourntencio, it unid alimant then would produce Lentor than would how dissores attending the und of their nelshavers thou wer the advoiates to Lentor afferm. It set 4th and lostly DV faulures supposes Lentor farom on alistraction of the way try farts; but nothere has taken so much cano to hup of the proper for balance in our bodies shot if the Serven should be less ened in quantity the Secretions and exertion would be dimenshed from any of them being chaffy from the Server). Dr Boerhow rays the Server is token away by wroting Medecines, but we know that when the Sweet is en world, the other next tions hasticularly the thring well be de = munched to compensate for what is dischanged by purpuso tion. The heat in Severs an areas the Solutility of the Googn table Lymph in the Serren From their connections Icon had that them is not the least foundation for supposing that mos is on quate from a Lentor in the blood or that much a Lentor ever obtains. But again is then not a morbid Tennety 4th blood or watery blood. Madeinin how her given to morrow its density. Upon enguery wo shall brind that there is nomord reosour for admitting this than the Lentor which w how just rejected. It has been raid to happen from taking wto the System too great a grantity of water. This might som that not nature provided for meh a lerementance by me morning the Searctions in proportion to the watery horte decade

bour to The the ! uniap Othy . dy ray whent. fint let end? 1 huds. in obtains that again is them not a and 1 entin udud. that 1

Ind This tennity has been raid to take Ilow when one of the Secretion who tof the Universe obstructed this may take plan for a moment in the Solinia remalis to but it is room carried offly hard unation Han enercound watery efferson and thus bring on a droppy of sportienter hart. This mortied dementy does not take place in forein which it is most suspected, thus in Inopines the blood thinner and does not contain mond watery harts thating notival. But may not the other parts of the blood low their Counsteries and be so aftered or to be converted into water. This underd takes plan in Jewry, when the congues ble Lymph and med globules are no altered as to went with the termin who is acroning is ancreased this accounts for the escape of parts of the fluids out of the Tystern which inte the My tote were wontomed in it but even hem wo con handly vay that a morbid Tennity takes place for it is so banged as enterry to low the properties of an animal flunding let us next en gram into the Change of the blood by meterite and first let us enquine whether an acre mony can exect in tublood? It are a wide feeld open to our view Pathologests it how placed the bourses of 99 out of an hundred deserves in the the fluids. It is difficult to tell what would had thymers us to neppow that disorders existed in the blood himing willy and that they were owing to acromony . For 1 our ; about is generally muld and fittest to obviate acrimony is His middled mostly bland and unspid. The Formacia that h wentitute the sheif hast of the food of all bounties containing wacrimony. But even upposing our abinent was aciding and left bland and Motwo took it in Condement. Foreso al

ellula futo ML mapies Thiring on to be hispo Kutu toily · and within the their fort of the food of all some world. any sout our wife from your old other th a lep bland and Maxwell to she is bound

honged by permentation in the Stomach or to low their lod quality. But 3rd pepporing they were not changed by ber mentation in the Stomach, they would it owid be girted by womiting or hunging from these sensell and worto ble forts what no ownerry would find its way into the blood 4th ripps ing the Intertures did not profus un whility and writability they would be so deluted by the great quantity of bluids in the Normach and intertimes that shy would be comdinent how their acremony thutid and soproduced no effect 5 even allowing acromornion substances entered the blood and escaped all them obtailes till theywould produce no descore, the oil would be absorbed from the bellular membrane and would sheath the body from its effects This appears to be the cheif and of this oil hence it is Inddenly absorbed in sextain discous the sound happens when sperson has forted long when the Rueds degenerate into on municiones state. If the Juli lances meno of a Jaline mathers of had enaped this oil they would be duchonged by the enum tomis. This is portento-rely the bow with fal durations which appears to be diffused throwthe whole map but to be concern? toted in and dushanged thus the Kidneys, this appears probable the sucht from one Commentance that is the Inddensels with which it produces its effects But again supposing the acris mony acisted in the look and that it was neither wered not suchonged it would not produce the discoses commonly or = which to it for it would not must at the heart and or times which are usuable to all direct stimuli other parts which ownell on wowend with a mount which objects there four instation In the durry the the pluids our highly among mons the Heart and ortenis perform their functions or unal

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the full is weller slower than common. I might hend informed you that there are no direct stimule to the Heart and arteries, they Il ferst act on the brain and nervous system and thro that on the most. Our next enginy is whether then and any ralts in the Hood? In acomony may be generated 1 tom a want of alment forticularly of the vigetable hend Ind from an enercosed oction in gothe powers generating heat. 3rd from a change of the flunds to an acrimonious state from Stagnation, sometimes from ef-Junious of the fluids into particular parts of The body they will hehanged from a mild into an acrid nation, hus is thus formed It shall be our business to treat of the openin man ture of each that and nephoned to enter into the composition Ithe blood. The Salts said to exist in the Blood one setten untle or compound. The sumple and either acid or alhaline the bompound and made up of these It lythe acid dolts Much has been raid of an acid acromony in the blood and this has been much inserted on or the rouse of many dros wes this was the openion of Ganbus and Boerhave. That an seid is generally evolved from our oliment oliming digertion is generally allowed or a fact, but that this and continues unchanged and in that state enters the Hood I sound so readily admit for 1th Bile destroys the said by mexing with it or room or it outers the duo denum and forms a textum grid It is known from reperment. What and and Brittens mulually destroy whathers qualities and an o cid is never found in the intertimes I may suppose the and formed in the stomach continued unchanged till it reached the other intestins get it would be deleted by the fluids in the intestines if

escap the first and one the house will receive a survival or a series the state of the stand the Beart, view west on your or white the the sent wind with the atan the said the transmission of the first of th d for flow and the state of t Qual the second secon the if the said when the second was not always the state of the said and the is one the state of the second section of the second secon od fer it wo uting tow +++ but it serve deserves o revious refutation. How is it horty populle that an acid should be found in such lange hos quantity in the I went and yet none be perceived in the uld Bland But what proves that it does not exist inthe well blood We know how mells wenter feet each other What wthe ted a los

tescaped the Bell and its effects be destroyed menty by dy pusion 3rd Is not deleted it could not be laken up by the Lacteds athey would refuse to odinit it Besides no Engury hos proved that an oud exects in the intestines ofter the afferson of Bele and havereatic juice Besides so extraordinary and the ofmula ting powers of the blood that it would soon chough said into its wil nature oven if it should much it by the Loctiols This a find that if taken into the body will be shanged into a volatile althout Two organients have brenchought in favor of an oard in the Hood first that blood with is occount and yerlds an a cid soon Her it comes from the brevit, but this is owing to the with for a menting and did not exist formally in the blood, It require hat oir and rest for its permentation which do not exist in How is it the body . Leonsly, that o cid sweats have happened in Bevers mulary this has been thought our argument of great weight. Who wer in would afrest that munatri said and theles went the in some because they mell the each other? or whowould choter my that many vigetables even when growing howands gow the putrefaction farmentations becomes they have efetid smell. But what prover that it does not exist in the blood is that no blood effervesces with alhalies or hand gutter Syrup of violets to a vid Bolos. Them is therefore form dation for the formal exertence of our acid in the Blood It is uset engreen into the exestence of alhalics in the blood and first of fixed Alholies. This Salt is produced by nature but the ortion of fine is necessary to its extraction yet what is them malogous to this firm in the blood to do this? and yet would how supposed that this solt mess in the blood in a compound tate alholim dolts have been much used of late os whents for the Stone yet we have no proof of the bloods yelding and ols

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holin armony. When twating of the Pharmony of alkalies we mid that they were either neutrolized in the Stomach or had this serming distroyed by diffusion; we have no possitived pog their defrolving the Stone of they do they do it in onother form. from Jea and bold water drank early in the morning how ! bun known to produce the rand good effects in removing the stone sout supposing theteneven to have the effect jet it is I an argument that the blood has a repuguance to alhalis and that they and defeatored in the Jerren and worked out ofthe nystem as offensive. The Unive of a person using shaline salts dees not dis were and alhali in it or it mi the tinges the Lyrup of wolts grew nor affervisus with sinds this proves further that no alkali exerts in the blood for welly. But what shall we say to It touchours that the Blood is disolved by the long use of alhorlies. I would " beeve that he should have told us the state and appearance mus of the blood which he has neglected, in those wors? herewas to how drawn his theory faits from Theory and I not his therong of facts. But I'm Supposing the defrolution of the blood really happens from the continued use of alkalies this does not provo that it is occasioned by the alkalies, is it might be neutralized by the acid in the Stomach and we know that neutral falts as well as alkalies defrobe the Blood. 3rd the alkali may produce diseases by distroying lat which seems necessary for the formation and composition Jaminal fluids. Thus in the Letturory it is from the abstraction of of this acid from the Shormach by the distase of vigetables were whom acid formerly supplied is that the Blood is diff of solved. All this takes blace without any fixed Albert being present

showing them alternate of themy also thereof as it in more I that any for my Robinson to have The offer att decemed diseases one alhale and that But arteet ahall we say to graderine that and is defortund. By the lang us of a Charlies mate. has blood which his has night thed, in or the butw od nearly happines from the continued was I god es not propose that it is orenerened by the Alka Red whom that mentione talks as well as a thacker defined Theod 3th the alkali may produced diseased by distroying a needland for the foreste them and complered Shirida Thur in the objecting when from the and a this and from the otherwork by the dutased of veget and formerly rendfilled it that the 18 lo Polard All their tealing places on Thront any placed to mulha

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present. Than is one fact which the favorers of on altraline acri mony in the wine have built much whow when mexad with the Syrup of volets it shonger it to a green bolor. But this is a parious orgunent and fallacious experiment and must be immediately regented by persons who have the lost know = holys of Bolors for the Leven of the blood is of a yellow to old and the Lyrup of violets blue and we know that blue and yellow when anexed together produce green. Thus other Intotoness when mixed with the Lynup of wrolets which do not contain any alhali such as Bele and the yell for Egg. 4 I Men any such thing so volatile alkali in the Blood. We mow that it contours an ammoniceal Sett which is come fored of the Volat. olh. and on acid of the Shoric hund but what we have mean is whether on wolat. altali exist in expende state in the Blood. D' gonbins supposes that it wes and mentions round rauses which he Muchs withodie I as 1st the new of Negetables which routein the volot: olh: who sthe Telva dynamie of duncers and the Llegnord of by, but with me there is much doubt whether then son time any volatile alhali, but if they do contain it in ever so large a quartity it would be nontralized by the said in the Stomach before they entered the map of flinds or would hanhonged by vormiting stool or hersperation 2nd 2x for lines supproses a fexed alteali might decomposed this ammoniocal Salt in the blood and their superate the volat Whali, but we be form proved that a freedolhali never enters the blood and if it did Moman no commentances hnother for themseal wixture to take I law. The round arguments pront that ner ther Soapenor Earth's can decompose this Salt

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in the Blood. D' you bers supposes that certain aromatri dut stances to her into the System and long continued will encount Au heat and birenlation so much as to evolve the Blatch olo hali, but I deny that they am taken in much lange quantity ties as to produce this affect nor evenil they were takening longer would they tend to decompose the ourmonional latt. But again D'Ganlines supposes that housons the Im into the body evalvo a volatile alhali which course that modern and universal defalle than of the blood aris dent in such cases. Juliefaction underd does genanate à volatile alhali but it is not in their away that horsons et. But from the Inddenness with which horsom produce their effects, I roughed they out by bringing on an atomic of the Merrons System which room produces a depolution ordystrana of the fluids, this in appearance is like Intrepaction, it is but momentary and is soon followed by Death Something like puturfoction also takes plans in Gangrene or Mortification, but If this over proceeds for for as to evolur a volatile alhale death in the then the bounqueun and the poticut wases to be the affect of Mideense. Our opinior soncerning the manner in ed formone act is conferenced by this viz. that the wolatela alhali has been und with mecels in Juomese in eases of hors now, nothing the volatile shali would how occurred in them losses, it them had then would have been no reasion for escheleting it. Reids Men would how been mon proper to mentiolize the growning alkali. From what has been raid dionchide that menther the fixed not wolatile

that word av useen Wasn beme the By + com mount out the factions and to little the the sen from the this wip those the Whitne mpho and fre Live asplich, ting it here's their and Sancheday that nother the found " alw

volatile alkalies exist formally in the blood. We would next to enquire into the presence of neutrol Salts in the Blood Imagine few of these Salts exist in the blood few are found noturally most of shew bring the productions of ant bome non Salt is the only one What is to her into the body in ound enable quantities. Dr. Boarhaw says he found this sumon Salt in small quantities in the Urine and this In rounders or the bound of Mat me lancholy botalogue Jasondars which he nanks under the head of minnotic summony. I much don't whe ther true common falt work wer found in the service. But Mr Morgrand who has publis id an occurate analysis of it tells is he found a ralt in the wine somuch resembling common Salt that it night wily be mustaken for it, yet it was efrentially defferent. bournon falt is Menford nevy Jornally present in the Blood. By a wond or ful mosels in the animal Chonomy the common ralt is shanged into an amono necel lett Now need this numbers is as glander long ago showed how a common talt might be changed into a rolt entirely intint from in proporties namely Meter. This me that har lately been used with advantage in the Manyfactory I Solt Little in France. I wifer Man form that no neutrol but this ammoniocal soft exists in our blood the some how supposed a common rolt to exist in it also from the great quantities of it wer doily seed but I have already told you that it is converted into on our mencacol date which is always present in the Moine when wo wife that A sxists in the blood. It has been called the Efunctial

y defr uly o th, ou los a utal Woders Hotmac nal de 1 this o

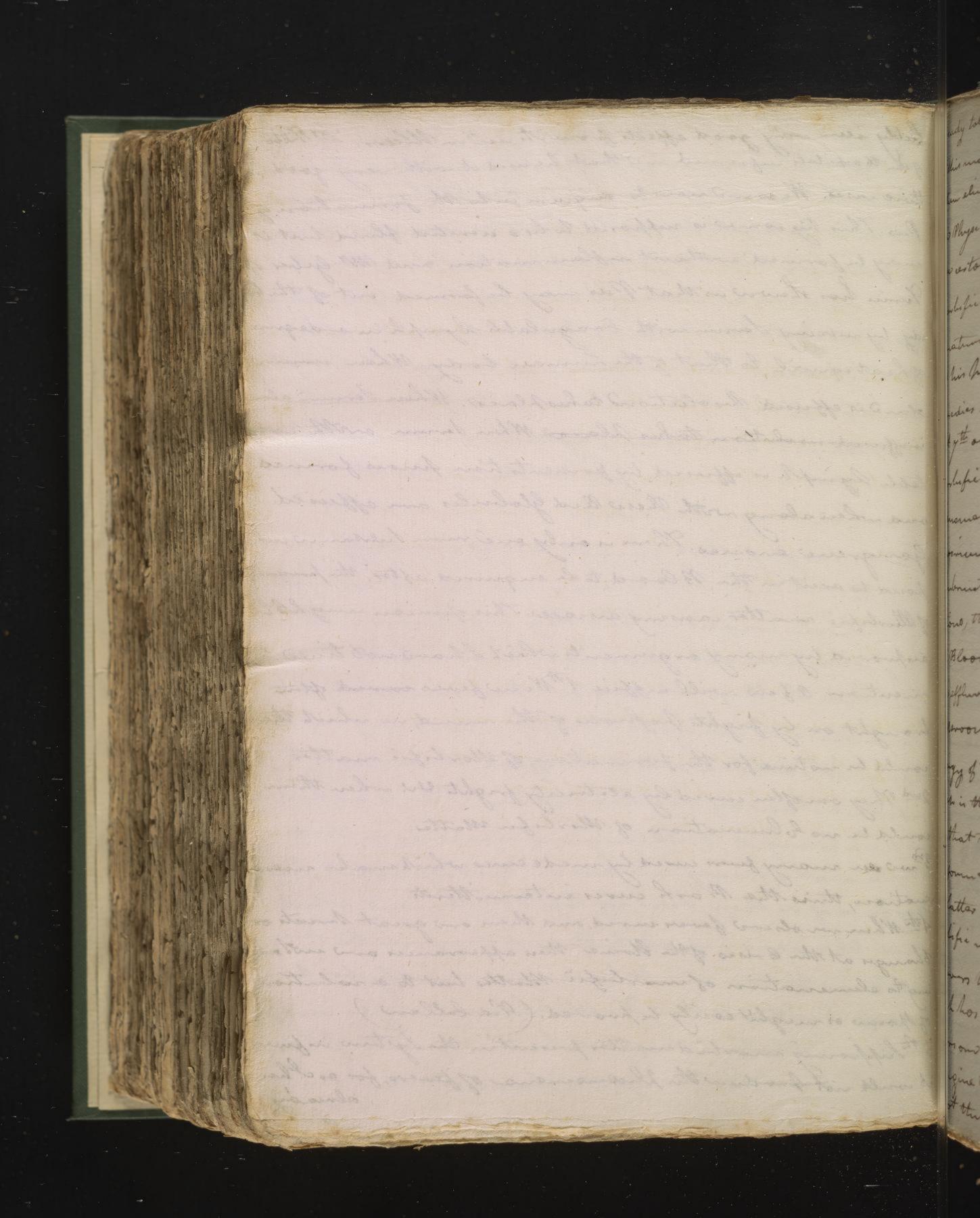
felt of showe but might with agreal propriety be collect the Efection or Mation Solt of orumal fluids. It is the one of this Ammoniecal Salt in the blood that causes the Leur : my and the defole tion of the Blood in that desorder. This except may depend, first, on an interruption of the Territions and Ex victions by which This falt is monally varied out of the Body Jeonoly, on the Want of Vigetable alement third, obstinence fourth, on Anumal Diet, this bring in too great quantity wolves a greater quantity of this falt fithly, on too greatle a quantity of Neutral Salts especially mentral Solts court mon talt bring used. I now this you may undonstand the Modus of man di of the security courses of Levery. They on obstructed parpenation this may be brought on by Johnon of the Mind by Gold and moisture) too much summel diet and too win he common tothe bung toher into the System. The presence them form of too great a quant tity of this ammoniacol Solt in the Hood is the Irvoir most cours of Severy This discool is not owing to hutur fortion or some how uppored. For ist pulmfaction always noffens from fermentation, but them is no fermentation tohus plan in the Lurry. Ind it is not a Contagions suron 3 Mm Serum of the Blood of a Scorbulic harrow worlately found by It Lind to be antiseptic and no homon in the Senvy was ever affected by Jutica Jeners is It in the presence of this ammonescal Solt that quands the body or on autisptic against Justinid anondars. A awing thems established the limits of our = , o mony in the blood a Question or ever to what then one

mold un oth mate ou the ton Wha ellent of the Actual of a decree found a lef effe of han.

suptions owing if not to assurery? with as from or ar effuriou of Server. I round think that absorbed Pris cours the Jever that generally occurs at the bow of thronic discours beauso as Itold you before the Least is usewalk to any dit rect stimuli. But it may be raid how does it happen that when old ulers an unddenly died up that others and ora win other places? I answer habit her great nightener Whom an evacuation hosion timed for a great Lingth of time, by stoffing it the ballance of the System is destroyed and nature velewer hanself by thow are tions. But whater proves them is no serimony in the blood is that all the had Heits of Nothing a Hemorrhaged may be obvioused by blud ing and purging which cannot take off acremony and I would in a few wonds recommend topical application in entarcour aruptions. When they and veneral und mas. wy. When from other courses or a Time Capitai. I attoch then with the Unquent. More or Stramonium (which lost "unamoti and deadly to them) and give punger or bleed to prevent plathora and its ill effects. There is another ortellent I un oig. Lock hor. Latremi. Mom is no dans! ger from using it if wohunge afterwoods or bleed. Then is another runedy now Jam on this Subject which I only very found of in them boses viz nigetable aliment which Mands lefs ammoniacal talt and of wourse the daning will have less stimulus. Medeines san hardly foodung this effect without this. The Most Engines may be und for winds and thepatient should take 2 or 9 quarts propo me thus it would bhange the fluids. I think I have in

the see Hosp This my buf in ho iat ign Disef fored Lyn when green itose phili mid ! tion. ght or du m in them done my Mystell allineau ou, the gu at 1 eline mw 87 -How H

tately seen very good affects from its und Meens. D'Milton the Hospitale informed me that he used it with very good in there eases. We would now to enquem in to the formation of Pur. This by some is supposed to be a wented fluid but it may be formed without inflammation and Mr Gelier of Turin has shown is that Pus may be formed out of the los dy, by mixing Seriem with boaquelable Lymph in a degree Thiat equal to that of the human body. When weren done is effund Resolutions takes place. When Serum alone ineffered resolution takes place. When Seven with eagle both Lymph is effused, by bermentation furs is formed oud when along with these Med Globules am effected gangrene enones. Them is only one mon Sulstanew ruhs fond to exist in the Blood to be enquered after, the freement Allowhopic matter causing diseases. This opinion mighthe inproved by many arguments which I have not time to mention. I few will methice 1th We me fever would often brought on by Jughte proprious of the mind, in which then would be notine for the formation of Morlifie matter Ind They om often cured by elatmenty fright W. when them meld be us blumemation of Morbefic Matter. Two see many fever weed by made cines which make more motion, this the Brash cures intermeditents. Att When we observe fever wired, and them one great Sweats or Though at the Brisis of the Urine. Then appearances and motors ing to alimenation of morbific Matter but to a rabution of thome or might early be proved. (Ma bullow) 5th Supposing morbid motter present in the System inferes it would not froduce the pholenouse of fevers, for as I have



already told you the heart is insmaible to dent Stimuli. Ethis morlific Matter we are told undergoes a boncoxtionand is then eliminated from the Lysten. What then shall wo roy to thow Physicians who wow fevers by It blending and purging for these estourly disturb nature in her concection of this morbific matter. Appointer vor very fond of leaving oll to nature and he gives us cases where he left all to materie and his portient died. He obser Most thow whow proper remedies on the first ottack meccad the bust. But yth and lost I comelude that fevers do not depend on morlufic matter, because we can account for all the Thomas from fram and a weakened energy of the puroneum titter parhape Man from morbiol matter Hombeniettent fever wo no one cound by Jutind oxha betions, they have supposed that there were received into the Blood and produce the disease by altering it. De. but then efflueria one only the Remote rans For they and on; the Newoons system as Sedatives and produce a weakened Enougy of the Sensomen and its consequence spasme which is the proximate cause of fever. It is in this particular las that the Descriptes of Bearhows and bullen differ the former calling the measurate the proximate the the latter the Remote Couse. Unother orgunent for Morlifia matter is the Lateritions sedement in the Mind inferiors but of this I have show already. Much hos been raid of for morbific mother become the mon on common of the blow of fevers from which the morgine the mostufic matter is evocen ated. But it " not the loss for besides the auguments to home

proof. his frailicent died the about that they without property tu bhi I and last beautiful that severe do not tudin tayro funat y sho Mos way of this describer and its kubu and which is the provision to earning of four, of in their free to of the I the tition pilm it un

that the offerman w of Sweat and theine of the 6 visis of poor owing to the John tion of spooner, I might add that in then bases them is a laxity in the part favoring of s funow. But you will vay how happens it that swillingt of the parotid Gland occur at the Erisis. These or I raid before of Iwant and Morine is only a mork of the Tolution of posin on the vegrels of the part. We are next to such of the Chemical Butony of the other fluids. Inch is the nature of the human body that its fluids an continue dly tending to putrefortion, the exerculations harte of which om thrown out by sweat thrine and Stool. Iwrat is nothing but water with on ammoniocal lott defroherd in it. Parfunction is a volatile vapor mixed with water find it is also mexed with it. Them is a impossing variety in this harfunable matter. Thus by it Dogs descours their Mosters even in the Thee hest Crouds. The growd working have different parspenation according to the defferent attaterals they wer. Unive server to work out the exercimentations horte of the blood that one too grofs to hals off by horat, the falue hasts and Whatever is unfit for Mutuition. The Mine sontains on surmours cal Lattons and oil which is suspended in it in the Body, but mbrides in the form you of a blond whom standings; The Union out of the Body is much disposed to putatortion when it undangoes this Through it wolors this Rumon sial sols whow properties I have montround before. However

Oil o Jales arth Such th ac tooth Wilder in 18th former sponer of a other in whom he there were the the the way is much despersed to his highestates und ing see the shortests it is nother that their their by 8 that later whom though a time of how I repose two wild

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However loothrom The Falls may be May have news tulas been my cetest to the prying Ey of the Christ May count of the foundent harts of the alterent and the Bile with which the alement was mixed; on a blumel Analymi on Oil a nelvous acid and a volatile altrali is obtained. We are next to speak of those searched fluids which one afforwards of un in the Tystem. I hafe by the Mucus of the West throat Bowels and Unthera De to speak of the Ignovial liquor of the fourts also the Soliva The faliva contains on ammones cal Tolt water and on & arthy Matter. It is aft to romant on the lette when bis called tostar. D' Hounton used to them a Jaw bond in which the teeth were perfectly covered by it. as I have mentioned the teeth and harhaps may not have outh sportunity, I shall have mention a discond with which May on frequently obtached and or it is not commenty trated of I shall give the method of wine. The demons mean is what is onlyarly called the Survey of the Juno In it the yeurs nobl bock and have the teth Smort covered to their rot mosts hence there is forgues to tooth och The fum blood from the slightest touch Than is but one me thost of buring it and that is to norify the Gumes. Run the lancet from ond End of the tooth in the Gum) to the other. They will bleed flenti fully which is of service, there is no pain in the ope ration or the hosts am almost insumble being morly gangrinous. You will be bloand room ofto to mothe point inflame, the old blish down off and new

with which the alement interes word, in a leterminal though do, it Timber should be stones a country by your of grands of the afternoonds of wind me the Lyslam shapely the Medices of the huse her three at the will send the three which of sont of the Exercise Engine of the James also the Saleman In Man anthrop the the st is abt to convertly on this level notices I by agiled that I the will and to their a found to have utity If the tee the against properties and exceeding the to the self ward man tioned the text and parkage may not sand andt The Mine Commender a mind of most of ment and the puts 3 has on frequently a thanked and or it is not ioning nech blocked of I that you the one third of our or The during mac weign in what is an elder the report of the forment of the tage pure don't the former well beech and leave the test at joined to their mannoots here is frequent house and the form thought completed to and the Wh do Then is but one o me thook of busing it out that is the ind Ole confy the Gumes. The lancet from one End of the to ather fine the family to the ather; They will blick & land Ino hally which is of severey there is eight air in the of ulent bation or the forts and almost insurantel lang med sith, world bending the mill by then a best of some fond, the fortuflemen the old that do of off and man

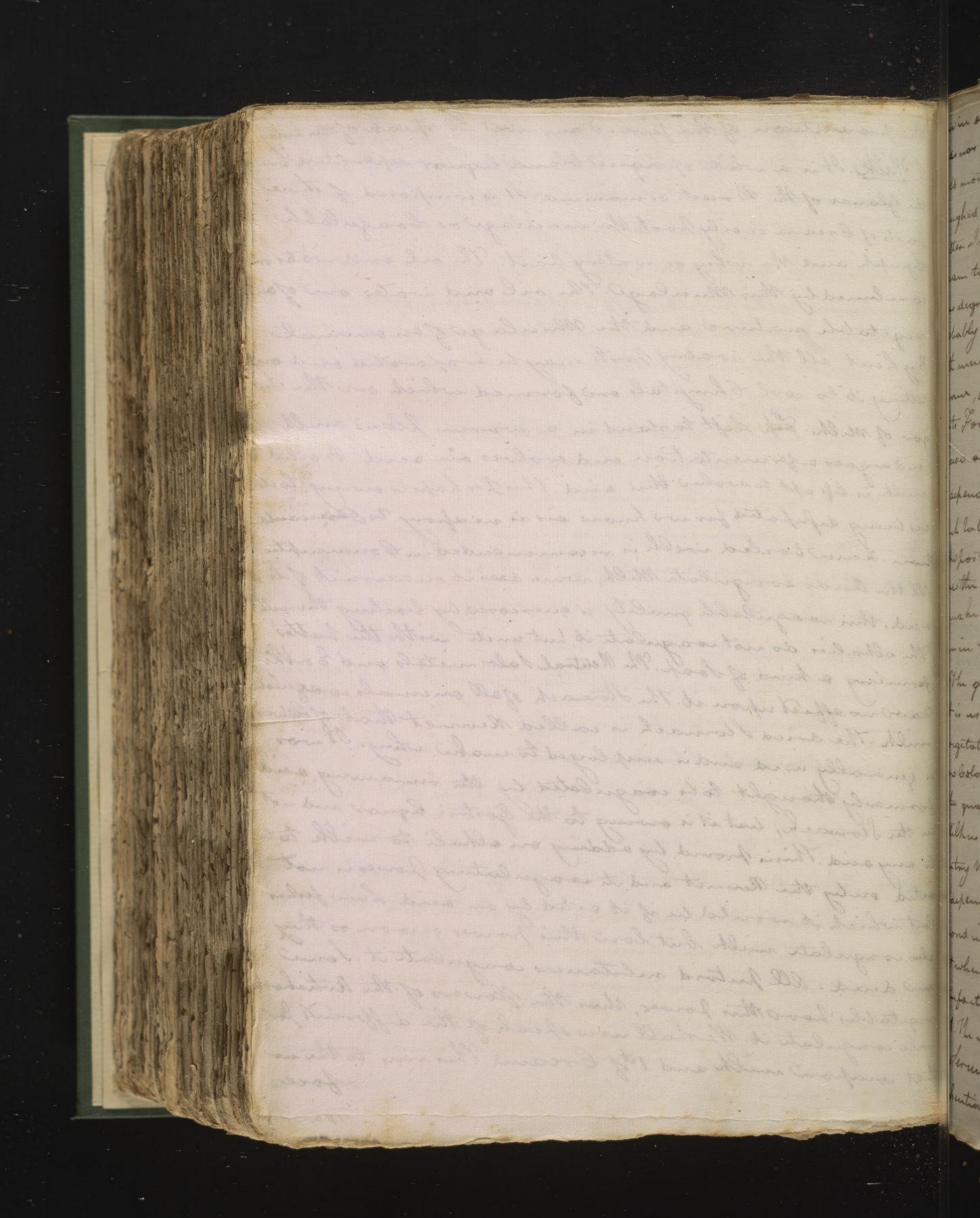
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the Bark internally as the habit is often relaxed and it you recommend it to your patient to rul the Gum untill it Hedo, it will be of Service. Fir John Pringle tello no that the faliva is antiseptie and hunders fermentation. Dr Boerhaws talks much of its saponaceous quality. But wo know that them are many other milistences that hove the property of forming a Lather with water that count broalled Soaps. The next degnor is the Gostorie Legnor. We can get it but in moll quantities to make exponents on. It differsing quontity in animals occording to their teeth. Thorn have bun many or parments concerning digestion which is afferent in defferent animals. Mr Reammer's & reporter month her strat a Turkeys digestion is herformed. by machonical triture. But in a Howh whow Morrosch is this and fleshy he found by experiment that degestion was Lerformed by whitism. In the human somach I believe solution from the Gosthe and folival quies is ofsested by formentation which Imphose is neselvary in all animals. The dese getted Olement is thrown out of the Pylorus unto the Duod enum, whom meeting with the Bile the faculant matters and precipilated and thus & hylic. formed. The Bile is proved by experiment to she In weither alkaleseent nor Japanoccours or round hands upproud, it gives by Chemical distillation o languages ty of oil some water and a wolatile falt this toutie

hadreid in the figher the son of may be and he give Bank without the cother hadel is often ne wast will be of decrees her folia Promple tells no the to of B full contract on many and house have been at the attent of working who a how to the much of its soprement good to the form lune so have that there on mount other in the that have ital heat 916 The stand dequies in the specific strapent to see your beat the of Mak here will from the wind her englished in the first former of his le from the same was to accommend to the the the same and the same for the formal and the second state of the second of the formal and the second of the ung a Marine of the state or minerally Me King would be apprecia herr toder this plhali Grande & Third print place of the forming by explanating ing 1 hat it gestion is a feet warmed by a white of it that Duog h. The harmon downed of lader sole tion from the mall for and followed givers is opinited by former telling

the production of the five. I am next to speak of the history Mulk. It is a white opagice bland lignor separated in the Glands of the Bonosta or mamma. It is composed of theme fasts of Bream or only hart, Mu muerlage or boagulable Symph and the whey or watery hast. The oil and water on combined by this Muerlago. The oil and water one of a rigitable nature and the Munilage of on ourmal. By heat all the walny horts may be evaporated and on setting is to cool Chrystals one formed which on the du gor of with to stand in a worm plow milh undergoes a formentation and evolvers on seid. Boiled with is less aft to evolve this aird. This has haps is owing boits is being defripated for we know our is neselvery to Samuente tion. hence borled well is meournended in Commention Il the deids evagulate Milh, wine does it on account of its ind, this roaquelable quality is encreased by boeling the with The alkalies do not roaquelate it, but unite with the butter forming a kind of Soap. The Mentral Salts metals and Earth's have no effect whom it. The Stomach of all onemals coaquilate milh. The dried Stormach is called Reunet that of Boliver in generally used and is employed to make whey. It was formarly thought to be roagulated by the remaining and in the Slowark, but it is owing to the Gosteric Eigners and not to any said. This is proved by adding on alhali to with to be outed only the Mennet and its conquelating Lower is not. lost which it would be if it seted by an said. Live fesher she roagulate milh but low this power or room or they om dead. All putrid metstances vagulate it. Some rigitables hove this Lower, Mus the flowers of the artichash will coagulate it. We shall now sheah of the different forth that compone with and 1 ty bream. This virus to the more



four in our exhausted Receiver or well or in the open ser, Meither suids nor alkalies prevent its up enation from the other parts bows yild most bireaux when fed on Postreno What how not been floughed in the Shring. This bream by churning becomes Bream to make Britter but only agitate in large tubs. Hour degrees of Least and generated by hurning this most probably is owing to bermentation. Butter with is whey with munclage in it. Butter is more sorily degested thou fream, because it is more freed from the Mucclagenous parts Four parents of Milh witoins usually four owners Theese all cheese is not slike and the different qualities git depend with On Porture. Thur the Parmaran & Leave to much lathed of in made from the Milh of onemals (Goots) Howe the restest Manun. The Chesher Cheese anahers cours wed make sheer so good in any other hart of England or turan in Cheshens. Ind The quality of the Cheer & Lends on the Congulum that is used. hennet is most commonly amployed than "avigetable valled anotto rome times wied, it only gives of ullow bolor to the Bheese. god the quality of the Bhees will depend on the quality of the Milhured, there in Cheshin the un the whole of it inthis bounting May generally use shummed much 4th It will also depend on the MeMod of preparing it. Chees has being upposed indigestible. New sheers may be so, but it costainly unot when heft for rome time, as it then approaches to i Intufaction, or is anedent from the Maggots formed m it. The mostern of Chaes w of outs its pulyer ation. Puderunis Jeldom for from Muelage. It wittens. in exential folt or Jugor which may be god by evopora

Whilh this ? at there in the him the was the windows of the 1098 and on the that ghape Hion inot theld hitrage there , or insurement from the ed the met The warmer of Elies a offered it fin hipsis de wo

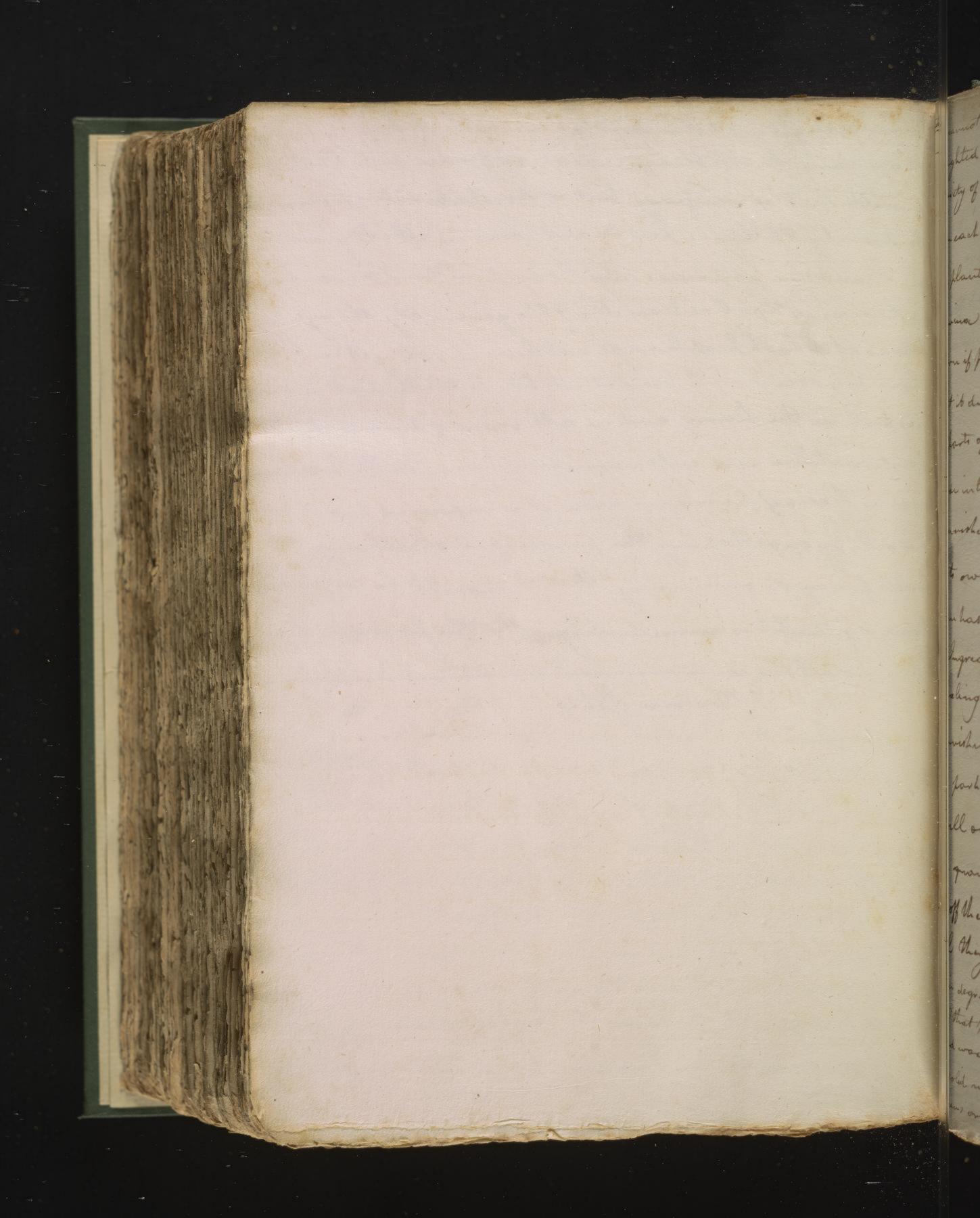
tion and Chrystally ation. The noundhunt from with is a cost ing to the quantity of Sugar it contains. The following howhor hous of the quantity of Sugar in the Will of different onemals & may afourt in their Exhibition Four Ounce of afres Milh] - - - - - 84 of Abuman -- | ----- 64 of Mons - - } contains - 90 36 ows - - - 54 of Goats --- 49 Wilh is med in Commentations if the Stomach will not mill how it you may add water to it and its good effetherill he produced you may give bows with to now he or much or You with by adding to of Sugar to it. The Dumale which of ford Milh on either Granemonous or barnevorous Therefore and running and not runmenting. If the run meting ore lows Goats and Sheep. The Whers ever thuman, ofses and Mores. We shall now treat of the obsperent kinds of with Goots Wilh mubles bows. Theeps milk is different os it contours more Ithe muchagenous posts and is conquelated by there's Wine. Warmens milk is not coagulated by acreds, but by heat of 86° and in Carlarens Stomach it is coquite. ted. A contoine a great quantity of bream? The milh of the men is not ollered so much by discores or hor heen imaginal for a bhild has been known to such the milk of a women who had the Lues venous without receiving it. For the Child to vicion it, it must how a sond month. But Wohious of the mend in offect it. Abenew in proposing & heldrew for the mull pose it will not be of ony un to give medecine

the Mus and the property of the war war again it was trained the following story Wilh ale to or and its good effects will be Mee will by adding long Juger to it The Commode which of ib en my b often E da El nomo locat of the deferent hunds of one Ell ww & Keets the mercela givered from to and is congretated ften it un h de my 000

to the Murse? It is diet only that can as onything have. Hes Mill is and very assessent when coognitated the whay floats in the Middle The Wilh is much offected by det, Mus a Bitch fed on flesh hosa more alhalescent with that when fed on Sigetables. As to this brigin of with I am inclined to think it is secreted from the buyer for the quantity given by some mirres and by bows ion may breareted from the Blood. But further Will is or executoring and blood is molumny to putrefaction olways giving out yfin a volatile alhali. Madder unparts a mid bolor tothe with this is owing to the oil the Whether contains) it woon the marrow in the bones and the Boracs themse loves. Ithe Mee of with notione leaches all young onemals to toke it muned atily from the broots. This should took us to und it emmede a tely before the volatile ports exhole Bonny blobber which is a spouloucous reperation of the forts of the milh is more which thou with . The Laplance don wow this as a construent to their diet, to prevent the Il effects from the onemal food. In the boursemption is is good proctice to weaken it with water. Some cour mustine hotelets have their florenches roweak or not to b bus it unlift deluted, for so Debodgan observes people und with diet most when they can bear it least that is they Then origines a dieb of easy aformelation, them is as much touth in this aphorism osin any in Physic. Brugh given object langely deluted with water and we may proceed by dequees to him much . Too much comot be said The me of mulhe in bousemptions and Shaw new more

the Whith is want of offered by deat, thus a Halik find on feeder agenced but have included the strends of it was sociated from the land own in we want for down son ted from the several met festiles whill is or excessioned and humb showing a way of young for him in young it has or while other in Marcher without a mind of other the the I when it we the region of the old yourself or warmed to be to the anthis increased then well. The deplaning must then as a not instrument to the stand to frequent wint The town or the same with the same with the same of th haired until de de la tel for so to to body an observe probleman with distance of when they can beaut it least that is they ! Her requires a stiet of conf aforms became them is on minds forth in the applearance only in they are through firm obtained languly de luthed with a with and animy of proved by degrees to form an the Yor much comed of bearing The use of mulho in Esnount to me and those our

more bought and bolds award by a with diet than by any the means. In all thronic discores attended with Plethone a milh diet is necessary, but it should be entered on with boution by Plethonic heaple and have no offer 40 years of yed. Thavo seen apoplexies and bramps in the Homochion at observing this Contion. The 40 is generally the oge in towns at which heaple will not bear with yet in the Country some will bear it at 50. a Milh diet is very weful in the Severy and in all cases of dimenshed perfunation and entaneous conftions. Will has been in wed in borns of porsons when it is nepposed to od os an oil, by envelloping the poison and sheathing the forts from to our mony. Here it should be loken in longe quantities unmediately after the poison hos ben swallowed. . Newous Ather



We warnot take a view of the furford of the Earth without being delighted with the great variety of plants wo observed there. The vovidy of Vigetables is underd immensable and they all differ for each other in their furits Johnage to to say nothing of Leaplants: The annuals they are produced from original Hawwoo which am unchangeablin their nature thus on own if flanted now will produce the round hand of Tose that it did unnedeately often the Constion to wontoinsell the parts of an oak in Embryo. Much arguny has been made into the food or Palinhum of plants. Vegetables one nouveshed by a matter like animals which it ofundates to its own nature, this metritions matter from its fluid form has been ralled Water, it is water in which most of the Ingredients of plants are contained. Vegetables have whaling Vefrels by which they draw in moisture and nouvishment from the thurshhow. They unbide moist tun parkenlarly the Dew by their external ourfoces or well or their Roots. They all herspine in proportion tolle growthy of moisture that they unlike. By bluck ing of their leaves the less will they about and the will they harspers. The some refrels which whale harspind. a ortain degree of heat is necessary for Vegetation. In general wo may then that plants will not grow in a heat above that in which melted was will continue fluid or that at which it just begins to turn soled nor when the mercury is at the fruzing tout! he evergreen, our on exception to this Rule: They appoor to be the

the state of the same of the s HALL THE RESIDENCE OF THE PARTY ylow and of layer lables is indeed in mount to and they all in for the on each other in their family from the segment of settle has no ing to here the second of they are produced from a some on he there is May d him me which are undergrowth in their nature of the contract the first was and parked the said the said the woot about die investig offer the observations to millouise tu go the first of on seek in Europe . Much sugary houden I will we will the fore if the line of of land in Project Change worther by a righter the mount is which it specular mi other the second than material and invited form it for the y de gran de la constanción de the fo har abtated the me and and the the egib perhaps of the by which they down in mountains on he beled The Manual State and the property and the state of the st renla findential the San of their action of miles for 1

only undegenous plants of world Elimates. They own their verdung to not perspering so much as other regetables or to their perspering very slowly and abounding with oil which serves to defend then four the bold: thus we find seeds one preserved in cold blimates owing to Mu quantity of vil they contain. Thow trues whow leaves fall off during the testumen on probably undegenous to worm Chimates. Intern Lead would destroy arrang plants if their roots were not below the furface of the borth. The Moisture is necessary for the Growth of plants get too much is hurtful, hence the best Benits on in dry reasons and in dry randy Soils and view verse you will also from hen w understand why enting the Book of a tree makes the funit better and why plumt trees grow best & Hond the best fruit & when planted in proved ground, here the too great moisture is carried off and Inevented coming in contact with the Root, also why osposing the Root of a true of how the fruit: by uncovering the Roob wo enemiased the sepon um of it to the Roys of the Sun Lance o less quantity of moisture smelibed by the Root. It has long been thought that thou is abireulation of something like blood in plants, but this we deny for the following reasons. It there is no communication between the veficle which melule and thosowhich discharge Ind Mo onastomoses offers 30 It is not necessary that Mun hould be an apporatus for the berculation of Sat; besides the Tapis not analogous to blood this is the same in all onemals but the Sat is different in defferent plants, in some it is thick it in others their, in rome it is aweet in others bitter and in some ocerb. But 4th the Jegum and distribution of the vefrels of flours memble the Navers of Animals, they do not warriefy like blood whels, but proceed in parallel strought lines and when they oppeor

are harmed the said and harmed in in less of the Earth and los hopele and ! Lon etable in the the 6. and there is he will be to be the second of the second and the said dan worked in surrect in attention to the the Built of the flaguerre sand distinctions of the websites 如为 while the shores of her much a they have the School hat his cook in from the march to the tit

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offers to namely it is only a repenation of the different felies; by Mas anothou they are plainly seen to be deveded into destinct telves and the boland liquors which have been absorbed may be observed in sepas rate lines. Water is to plants what blood's to ournals, it watering the prompte of nounishment materially. as the original staining thost into films so they retorn their onymal figure ever afterwoods thus wound plants give book which makes thurad, bondage and hand linen breaus they on Jelvons, the book is hunily felrous and from it the nourshment of plants to dereved. This provide by the following expanement, it wo cut a him of Book out of two and in its black put a Vin blate and then tye the Leice of Book to which was taken out over it in two or three years often workall find that this plate hor much into the folid Substance of the tree His no matter whather then naves on tulinles or spongy. But the othand lost orgument in support of a newous Lystem is from their popeling wortduly this be find in money plants in whom whitened then there is nothing beculiar it Memfound de is finds on the presence of a nervous System in plants, the name quitable is monoproper than Sensative or wil commot be extern that plants popels sensation. We shall not enquen into the 6 ir enloction of Ook in plants. This has been supposed to be owing to Capellany attraction, but no councit admit this Supposition or the newer our not tulinlos and or the bis ulation of the Sop dover not follow the Laws of Capullary ettraction. I would nother unphond it owing to the influence glight and heat whom them deriving the Tap to every host for we have shown they have nerves and conniquently in tability by their monors they have a unabelity to the Roys of the Jun! This will extend our odeas of the unigonating howers of the poveret of day which not only renews life

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in vome animals or hors Ina his all but even first gives wise to it it in others, he gives setwity and verdient to the vegetatile brief then? All plants how a Portiality for theat and light there or wo before observed derive the Saf to the different horts of plants, hence wo can understand why the Branches of trues in this executing exposed towards to the Louth Sten bund toward. the South so time in this observation that The in a drawin America un it on a guide instead of a Compass The Sun flower which how the strongest portiolity for the True light the the Boughi in green houses generally spread towards that fort from which the light proceeds. The green bolor of plants is owing to Mis attracting and fixing the Mays of light, Muylose to this in the dark may not all the variety in the Colour of place howing to their othereting and Jeneng the ways of light in defferent proportions. This wor Do Haler's opinion. Theroil and & amote influence them greatly. Detholes tills us that the driest voils afford plants of the nichests and most elegant le slove may not this he owing to their attracting of Justing the hays of light in oh for ent proportions. In I now Menton hans to this openion or may be were inthe 30th hum suljained to his townstisse on opties. We have and more franche with nesher of vegetables to mantin which is that they will not grow without the boutest of is and that they yould a fritty longe quantity of this by distillation. Some blants have their appearance and quality changed by being transplanted to another blue mote or Soil or the Thom Bush which by being trous = Hanted from the woods into the Good en love all its

sile o ghed, Water: ally t I dig apoli Long 站山 halty changed by living transplanted to a

thoms by the Change. Others one unchanged in any Clamate, the the water melon comes to agual herfution in the cold regions of Sabaria as in the Sunny Gordens of Storly. He ever yould by obhumeal analysis. Water, oil oir, Gorth, a chowed Mate abounding with the to and Salt who as mughe Solts which on sind and alkali and neutral Tolto, Mu olhali maybe stained from some without colling in the detron of few. The productions of vigetables in their native state one oils forome! ti oils or Bohams and Unetions oils) Rims Folts gums Ingor and Forma. Of the dalts oils and Resins we have dready hohen. The gums are Tulistances which are might usipid, modorous, modulele in V and sile but valulle in Woter. The yours on housed forth in a toled form and hordened by enposition to six, they are unful in thannay of by their ameans we may unite oil and States. Sometimes the gums and therins one combined. Openin is of this had Then on human from their exending from the plantin a mulhy form and defeaturing only in proof sprints home the Spirit defeolier the Rein and the water the Gum. Iwill in not defolier gume Resin so madily os it wintories butlitte water Ingger has been improperly called a Talk but it is not forit wants fundality which is an afectal property of dolt & and it is hall to bermentation which falt is not. It explosors when thrown into the zine, this and its forments tetion is owing to its fixed six. It is which in Worken works but reporter and is deposited when the Spirit to comes old. It is Johnble both in worm and lold water. His highly outreptic and preserves animal Indistances from

ugas a Kommen. By the state on to and nami oh l 11 rover this and is deposited how on the Same d; 7 forth in warmer mande to the cat

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putrifortion it is very untritions and the Basis grownshment in Ve at getables Plants being nutritions in propostion to the quantity of Sugar they contain. In the Jeal of Nouveshement Ingor Hands at them ber 1 Oil 2 Muchage 3 all our alements soutain mond or lif of then Inlestances. It is observed that in the Loron for such hing Lugar the Megroes grow vemorhably for probably from lingat this time almost wholly on sugos. Origin. Ingo is got from the junce of the Lugar Cane. The junce must be boiled till it deposits the Lugar, thou should be or lettle interval or hope the between the Expression and harling of the juice or it is exceeded ing hable to ferment and the heast progress towards farmers tation present the quantetion. The Negrous who on well equanited with this beverntance frequently whoil the whole boiling of it by touching the mill in which it is ground with home or lemon fine which sets the whole a working. The Ingor band is not the only sloud that Honds sugar, the Maple the Bruch and the thehony Pour each offord it also, it also abounds in the Indian come Stolks in Carrots Porsnips Beets Do. The Maples which gran on the Hills afford it in longest quantity. It may sho be soil browned in worm weather by covering the Roots with Inow. Elever Gallors of this juice will yould on I found of Sugar. The Indians when about to make a journey menthis Sugar with an equal quantity of flows huchound frem green indran Come forched over the few, by mix ing a little water with it we obtain a pleasant agreable food; this if even taken in a mall quantity yeelds a great proportion of nounishment. Ingor way be ottained

i and ritur the New Mark of the finding the will see the second digne have been godlang of the face will go the original nece of dryon. The Indiana will are about to make a journey -dred extres and from rindraws to over fortelled and the form by an wide and a little water to the me obtained a plate water to the little and a part your you and this if good taken in a simel grandly property want fresherman & marting of party

blowed from the other plants in which it is contained by throw. ing them in worm V which extracts and depoles the Lugar and when cold deposts it The Maple not only yeilds Jugar tut thewin venegor and on ordent spirit. Forma is like Jugor in some Refects. It is disposed to bers ment yeilds a shirit and Vinegor and is robuble in warm Month and in the Boots or Smits of others. The bornsling yeild it in greatest quantity. It is somewhat sumarkable that the boording have never been found wild. Perhaps the tons no weget is owing to bultime. Perhaps all the Concalies were originally of one species and all the warrety weigh w may be owing to the blange of blemate and Soil and to Bultune We am next to shook of fermentation This will befine to be a gradual intestine motion of the components bosts of an heterogeneous Map with the selection of fined! is and generation heat It is distinguished from efferver; and by the Extruction of the his being gradual. During fermentation a territid matter is secundrich falls to the Bottom or noon or the fermentation is over Heat months moisture and Rust am absolutely me a fory to Somentation The digree of heat requisite is between yo and 100. Moistund is so necessary to bermentation that Lugar will keep on hundred years in a day block without for menting althout is so extremely hable to berment: the different Sages of firmen totion require defferent degrees of heart of moisture. Rest is also verefrong or too much enotion ather interrepts femmentation or humisis on too nafiedly. Farmentation is divided into three Stages the Smons autous and Putrefactive It

The weld deposed to the Maple and only youlde hope the deal toflar their overegor and on ordent spirit in Trugon in norms Repeate this distrance to par Putur water thought in wold. It is wontered in the level of lante and in the Roots or front of others . He Constanged ! the grant of mounty of is commented to the form of the first of Comment in the state of second from the the then to put no enget is owing to bultines Markagh, all the lessenched voa for the war ing you proceed the make the house have been wo may be owing to the Charging Characte and dock of 6 Grather Meaninest to whom & of forest to their things engu deline years may enth the ordered tion of prince! un is and gone controls heat of in dutinguished from affiner 11 - ba the bather time of the the the product of Tommer ! 1. farn the same to the firm who have a war that we was to maritim and that an about they ne whony his weapony to former total and that my in the fine of bunding years in a day place anotherest for an entiring although the , westermely liable to germent the affect to logice of him require different disposes of Local of ministrum. Then respond to the ment instrument interest in the form mal 48 times stages the Venous hertains and

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It is during the Vinous Jermentation that the generation of Fixed air that and intumeseeun are more Copions. Thus during this Stage wound heat is sometimes generated as actually to break out into plances or for instance in Hoy stocks. During the acutous ligheat is generated and life mosstein is nacefrory and in the Patrifortion there is an entire abstraction of heat. Thus a great whole will putrify without the appear and of his the hast digner of heat tis to Mis Beremmen That light wood owes its luminous offerance) theat is not necessary my to hutrefaction. Moistune alow is sufficient, Muss a hereit of wood by getting wet will be come I notten. During putnifer ! tien a foir alway areaping, it is to this that light wood gwes its lummons appearance, the vapor that is due harged is rome times inflammable, then we have in the - Thomas of Ships being set on fine by brugging the flame go bandle tooner the Vapor enaping from roin We to farmenting in a Hagshead, a vapor of this hind is durchanged from Bilogo water which torrisher Sloes and hourt, Who vigetables undergo thew there stages of permentation if left to themselves get May may h hought about queles by mbolances colled ferments. Thur yeard trugs on the Mnows permentation Touter of: no hostens the dectors and a putnid Motter will bring on the putrefaction termentation. Then facts admit of quat application. Iwould have proposed a Question on animal Sulstances capable of under going the defferent tages of fermentation. I how tosted an acid in a peice to

to the man on the material in the property of the a contract of ful Ental will fully without the opposition dates llw dangs lesh a send to the ment of the selection of the send of the send of the send of the Sich th the said of the particular of the said of : - an her a of is alway soraping is in to this that light as and us do er its lime unous appear any all the expertent is due to time and is worm others or supplementally their winds dota of thefe he end sot me fores by lovergeling the flower table Ile toward the haben economy prog formenting in a the stream of well and t tion duthorized from Beloge another which townished ich co of these and fount, Who regulables undays there then the recta fot aloust gracker by on to lance a clear forme in your things on the Minor parent attack on Too too Show the the there and a funder of the the the preting a time formantation. There parts and

By us

Jyoung Beef. Two hours after during solely on animal food I somited up alignor which was evidently Sour and which Lean hanged a blud wege table infusion to a red Bolos. Wool is on animal matter and as ver peford observed the generation Theat is solely confuned to Murmous fermentation, yet new fulled Blother will take fine when exposed to day! how Mall we occomed for this Phonomenon? but from its undergoing awmons fermentation. The acidity herelwid of in plesh may be owing to a past of the Sigetable matter by which the animal was now nes had not being property and an anemolized. If the vinous and section ferments tions do take place they am not une form and but of host continuance. It is indeed defficult to determined whather they do take place; but it is probable that May do. Do all ! vigitables run thro these three Stages? yes they do altho the progress may be different in different legitables: thou that contain most Sugar continue longest in the venous, then which contain most much ago proceed most quickly to the occtom and putrifactive. Those Wine that contain the most Jugar have the iterrigest body Fermentation is heeked by 1t loo much or too letthe heat 2nd By ralti 3ª My coleonous & orth, Ath By volatile acid of Julphur 5th By Electricity or Thundar and Lightening 6th By too much mation. We some how to shear of thow multaness in makings which bernentation is commonly suployed. Bread

and the same of th muited up aliques which were evidently don't any a willing my take unjurious to a med Bollow, Week is one weather and the property of the period the period the period was a facility of the period that the period the period tha had is solly you fined to the server for it is is pulled to the will take fin when aftered to day I have Marie and for the Phonones of the said to make the dition shed may be owing to a past of the Engelolie moder by The house was now one had not being properly on wind light of the veneral and action for enements of in de take folder they some wat ein efformed and but of short the the courses the inside of the from the to do there in a social the Letter flower, but is freelended thank they do . Do will f or ha tables men there there there to get you they done some hould in graph many for any former in any flavour of the get the former land outon want me along Throused and going his for

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Bread. This is made either of Wheat Ry Borbey Chats and Maiz bred is the most natural good of man and I never heard of but one man who avor not found of it. It is either Leavened or t Unhavened. Unleavened Novad which's made of water flow and some Talt is the most auteent it is baked on an Hearth. It was with that alwaham entertained the angel in the Valley of Mambrake, Ativi is probable of by the one pedition with which it was presponed by Sanah. The time anoties and Tavages still un the uncravered broad. We on undetted to occudent and Oconomy for the discovery showened head which made of flower water and yeart " whoven. It was probably found out by some fungal Housewife who unwilling to love the liast senat of a forst mas hahing has mered them with Just flows and has been to improved to find her broad lighter and better rovored intend of bring hand This was probably the origin of leavened Bread. Tuch a discovery could not long remain concealed, it spread rapidly this the world. The use of it must have been very oricent we find mention made of it in so early an age as that of Mores. In offer egeryeast was discovered and used as a farment. yout is the Sound of Bees while it is in the venous for mentation is generally used my this Country and answers Better than the liaven of Bread to make leavened Bread. In some pasts of Stolland the Bokers use nothing But Sugar and water to somet their Brad The French Rolls which and the lightest hand of Bread and made in this manner. To half a Bushel of fend wheat flour add ten Eggs, one haund and half of Butter and or much yeard or inflicient. They must then be moistened kassaded up with

made the same of a state of the same the same is and the same at 1 were all a server yourself of the section have pres. antity Takey of Mannhooks, this is probable of by the the water it was proported by the the the the Mari titio. & this 1 Sai ound u dru 4 201 40 ww on when and another others than the thousand of the moint call he the All which and the Aghtest hand of Aread Low to half a dissolic of he a "indeat flower do incele and hady of the willy and or minety replaced they amond then be annexthered houseded

new mich instead of water, before they are baked worts there was with new with in which on Egg has been beat up, the heat that is used for hocheng the Bread should not be longwit To preserve years evaporate it by the due or a gentle fener to a volid mafe which well heep for years and a small, quantity will rosse bread as well as any other yeard Them nan opinion lately troached in London that Briad is hurtful. Broad from its seeseevery may hurt very weak Homacks where there is a morlied ocedity but not others There is allem in the Loudon Horand, and this has been supposed the rawse of its proving heartful. In round county thetions it may do ham, but it is in too unall quontity and this quantity to much bettered with foreign mothers to do howen in Lealthy harrows. And how many westrol and Earthy Salts down doily take down in over drishs We would now to speak of drunks made by formentation, and home I must premier that mankend uneverally make use of formented liquors. Man had novooner deported bound his original sumplimity is in food than he did they same with regard to Druck and required would with Upmuph than water as Wine, Beer, Spirit sec. In ana they propon an into secating Engues from the guice of the tome in cled the arach and from Rue In South Americal a liquor in prepared from Many by formentation with bliva. The West dudians un a lignor propored onthe from Lugar. In Europother Vine distills a liquor for the un of its in habolitails. The Partons contrive to

. who the su of Hum tuge 1 the ale aten,

extract a spirituous liquar from Manes While when it has grown sour. In a wond so greater the delike of man to! water that there are some notions that quench their thirt by making the blood of living animals harticularly the goods rather than hortotte of that pur solutory fluid which flows to them from every part throw the alembie of Matrine. One brime generally produces anothers. No sooner had man boon begon to retrate his appetite with animal food than formented liquore became necessary to countract its ill effects. Them a henance in eating produced a necessity of outemperance in downking. Man no women for when the fruits of the earth than he sought 6 andemonts from every part of matiento to make his boad till move sow ory; much drinks their become? abolitely necessary as abound with on said and a vegeta ble mother capable of correcting the putrefactive tendency The first Liquos that we shall trat of is, Beer This is proposed from defferent grown in defferent Countries, we generally frepair it from thorley in this Country and it is also proposed from Barby in Europe in the following manner. The Barley is first so a hed in water for 3 or 4 Days till it grows roft so that we can squeen is a pull out of the growns. Thou growns that flood on the Surper of the water on Morown away ling light and votted His then laid in Leaps till it regetates or germinates, by a gutte fermentation it gets a sweet Toste and its formine in honged into a Jugor, ofter which it is dred in a hillier and then ground, it is now welled Molt. It is then fut auto a longe Gopper veful to boil with a sufficient quointity quoter which setrocts to meet or So echorus Matter

Third their ported the of that present with four found which William from overy front them the Dambie of thateur, and mite and the second of the second s in Ru nd ve age in the course we confirmed the commitment of the offerthe offerthe offerthe hame Maria and the second se ump the l ow a modin. en realily " Booler wood Re in a the Bon ly is feet to wanted To atte m. Post wort

This is called mosting or masking in Tootland. In the fire paration of the Beer we hould attend to the quality of the 3 waster, mer and Pond waters one the best and to be preferred to spring water. The proposion excellence of the London Boster is owing to the impurities of Thomes water. The Deloler Beer wente supamonty to being made at a time of the year when the Rower Thames abounds most with imprementing on animal and vegetable matrine. He may judge of the imprinity of the Thamu vater from what u said by De Smollet in his Humphry blanker he observes that human Exercises in the hart felthy and least disagreable Tubstance that it wontains. The heat hould never exceed 120° of Forenheits Thomsometer. It is now called Wort. Hope or some butter hert is now added to prevent the outous farmentation. Worms wood is sometimes word but it is neither so fragman not \$ agreable or hope. It is then after round time put into a long tube or Booler to cool and their into vate to forment offer this it, is howveled or Bottled. Thour nothing to add concerning the un of Bos ind medecine, but that it is unproper in a sidity gthe Stomoch. Porter has been substituted in its plan in them Boses. The predominance of the Bitter over the said is so great in Poster, that then bad effects do not follow from the und fit pud it is often med to great advantage by its litternels to braces the Stormach and prevents the Beer from undergoing the ocatours formentation. The next liquoris Wine Of its antiquity wer how high occount both in Sail times and in the profond Wreters. In our point of the Swiften A in said to comports the He want both of God and Man. The Phi

him eadled weathing to mainly in the there will be the The state of the state and a state of the st waster, many and Pound mailers and the last aged to be he freighter with their after the former and the country the contract the and the state of t the sand was the love of a series of the stand of the sand of the the lain thoused abounds careet with unper their general the indicated in the way produced of the same of the Marin with from what is and by The molled in his in G thurstony otherst be observed that himse is aming as dark felthy and hook drossyreally she she so will Contains The Lead than led never exceed 120° g " my. 12 Kongramating it is now in the least thought or some The things hita the second to former the content of mental mental and a solution of the wh were of a some want hast a for earthing as from your or the crio squally or hope of his their often after remaillered furture to the state of where the second class with the formation of a first the by pref the model of the state of the water of the same of the in it that in D. yearde court first that the it is weappear in a gradely Misam o in the predominance of the 18 other own the course of the a Parter, that There do bank offer the he was for though from the Lucu Me w - His for the med to for the war with it to have the V . Las of it has an the other was he and prince to the or and languing the accitions from when they will Expert and the antiquety are have high second to a in the property and a second on the second in the with the surprise the the the work of good and their

Inhall leave this to observed Most all Rives and originally & the same nature however deverified by 6 limate buttino or Soil. The quality of the Time is much altered by where bis. countoners, thow that grow in warm Climates are weets and les austern than thow that grow in rold betiments. They an also deverified in their quality by the time and mounts Therpoing them. The Rearb wines one made from the unmos tune Grope and the owner from Grapes fully wife and every some sohot doned. Tack is made from dried byrakes and devives its name from the french word See which uguefus dry. The mode of hinform also influences wines. Thus the white and red Burgundy are made from the came Grabe The white flows spoutoneously or runs off by a gentle program The red owes it to olor to the Thing of the Grape being forces by prefed out with it. This bolor is after word heightened by coloning Substances or Red woods or dyes. The bolor is met only hughtened in this wine by their and Sulstaines, but show other wines. The june after it is prefred out and before formentation is called Must. It is now ut in a worm plan where it farments when the farmentationist is over A is tomeled up and after wome time is fit for use? The fermentation in were is stopped in the first stage of in the vinous formentation and roomer in proportion to the quantity of Lugar the wines contain The weakwines or much or how hut little Sugar an most aft to mun

and the sand the state of the second of the second of the totion that have the to charact out There were the that or des he so we wanters however the of the order of the second etter. The process of the him is much although by search a this a mindown is there I thank governow we would be the same to go and the matt and the another than thous that grow is cold estimate. It Mis : in the state of th town harac the first and the over to from fresher feely with out on the he ha me well of done it tack is made from doned Grader and n the serves to manual from they formed for which engine to ms ! they the same of freefreen when when my leaves and select freeze the wha The said real Munguemery are marks from the former has been the mu I want of the order of the order of the second state of the order meh and owner it to share them, of the freeze the property of the Time & the feet and sunth it. This later is afterward he plant of gledn the interference or that we do not be down the fether is not the Aruga If hay thend in this mines by their and belitaining his to toton a other more . They were a plant is a planty and anot and taking in walled Mark it is now int in amount is where it forments when the form entationed is some 地土地 a love list up and after some the some in fit for reach the The of mante the in mount or stagled in the first warmen 1 gar interpolation and some and some in the first munth generally of sugar the names contained The range - mas or week or have had hately dugar our most and he

on to the occtors and thus to be priched asit is called. This ace tous ferming totion is commonly stopped by B nandy, which prevents the evolution or destroys the aird ofter it is generated but the addition of Broudy alter the quality of the Were, the best method of restoring them from this acctous fermentation is by encreasing the quantity of Sacchain matter in theme or vousing that which is already present into other This is done first by as forem to the Jun which is often done by the wine more chants to understound how it openates we ament observed that all the rachovene parts do not berneut at the first Jennentation a good deal is deposited with the facilent ports The head of the Sun nouses there and not them fermenting and howing go the unformented must or /accharme matter not bein and thus detroys the lugiuming oudity. 2 me that of rousing the suchavine matter in wine and thus preventing the ocitoris barmentation is quitte motion here I see voyages do so much good to wines, they on botter when they have stood some time for being ogetated Land Corrage will have more effect in improving were then even a fee voyage. I'm foreign mattersutvoduced to bring on the vinous formen totron an orgetable or animal matters. The vigetable is on enther a portion of infermented must or a quantity of Jugor. I have heard an old madeera merchantrey that the best were he ever knew came in a Sugar Ship Thow Pipes of were that lay author about or below the that I higger brought a higher finer than the rams fife other hoper that came in the same ship this appears to be owing to the wome absorbing the sweet effluence of the higor

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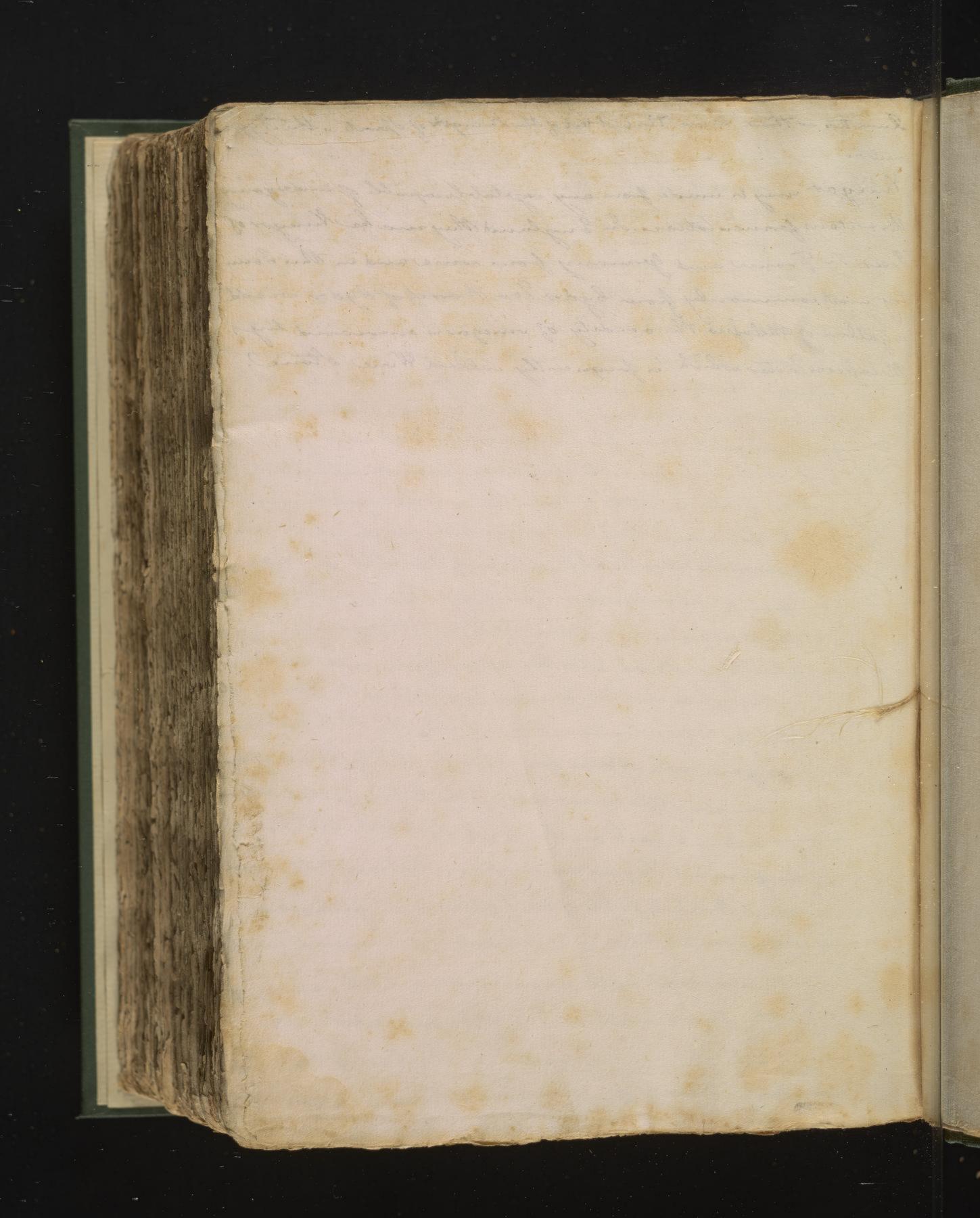
ofthe Lugar, it is a uniquelar fact but it is not peculiar to write if applies and burried with turnips or is frequently down in the neigh bowhood of this bity) the opple necewis is strong a toste four the turnit or to be very discogreable. The tis not easily told how this effluria Fregetable exchands. No wheat buts forth Eon show sown under a Walnut true. He animal matters on the Mach and Bollar of Beef ham our old problem recur whom us, the bollow of Beef is commonly said to feed the wine, does it undango a vinous farmentation or does it wolves on alkali which neutrolizes and distroys the o ind of the wind or fort or it is formed. The former is the most probable upports : tion, all animal Substances on originally comprared of orgitables and rannot easily put of their nature home the asprefrior in the Scriphine that All blesh is Grof is town note only in a metaphornal but a literal Sensi. Www may be fined I by Kest 2nd Michanically or by Loud as a shiel of trown hapar 3 themeally by them Mich or Sun, flags. Mun very down the tirtid matters to the Bottond. arts the analysis of were it is composed of andert Thints water a vegetable acid and a certain quantity of Must. The nutritions quality of wine depends on the quantes ty of must it contains, the stronger wines one more more withing than the weaker or they contain a greater proper tion of must or to echorone matter. Moideina then is the most noumshing of the wines, thereny may harhaps be classed with Madeina after then we want Payal, Teveriffe, List ton after them Oporto; thend Champarque blood and Brengundy. The would wines may be cluped with meader,

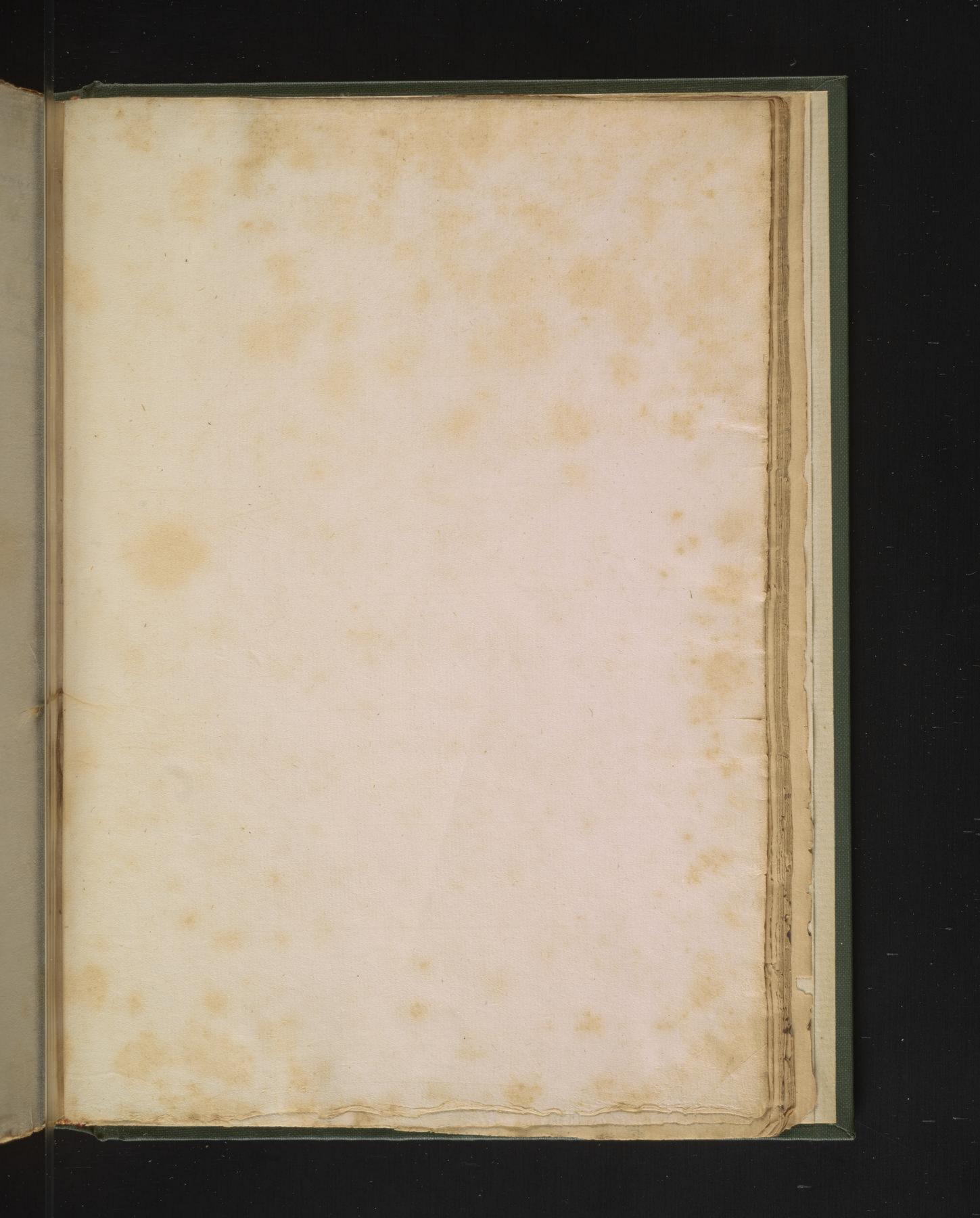
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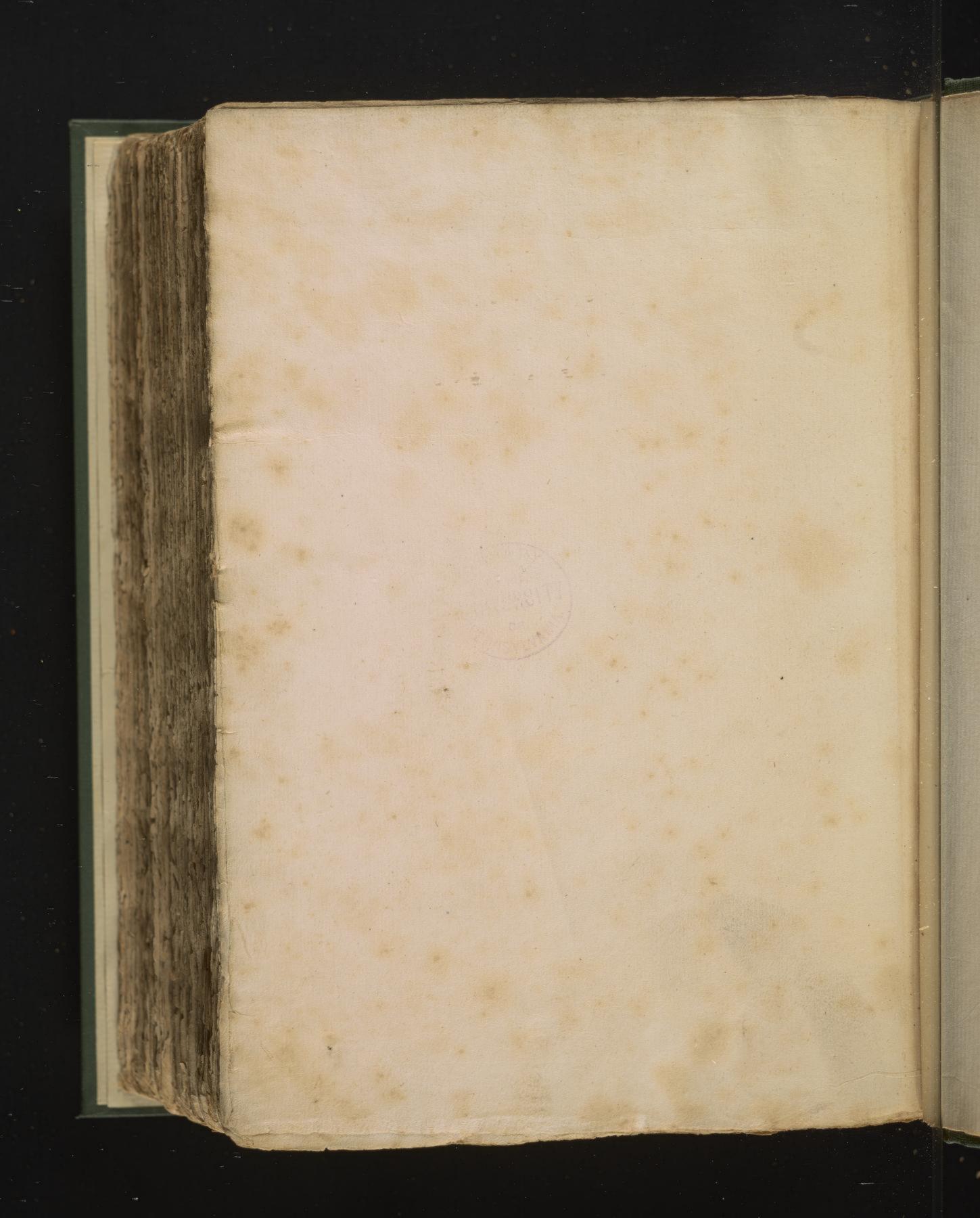
and Joch. Spirits on light uflammable bodies. Their Chemical proporties I mentioned before, they are produced from Sigetables which on in the owner formentation and from their only and may be obtain ed four any vigetable repoble of undergoing this formantation. Thereto on obtained from the Concolia apples heacher pears de The guren which grows in old worn out ground and indry teorous yelds mon print than that which grows in new ground or in wit sessons The spirit wo shall treat of how is called Rund and is procund from Melafres. The Melafres brought from defferent blands Josfefres different properties and as the distillers call it very hot, that is it ferment very readily whend it somes from Surman Borbadoes and Jourica whilst What which comes from Despourola forments mon slowly this 'n owing to a greater quantity of hime bring employed to chrystollo the Lugar de Surman they und a Segetatele alhali which does doch the Janmentation. To 100 Gallons of Milafus odd 300 of water and 400 of returns (what returns on I shall seplain In untly) let then stand in a 6 istern for 8 or 10 Days till their on wourf horty entered into the vuous fromontation this will be in a longer or shorter time in proportion to the heat of the Molafus. The legenor is them to be furt into the Still and found 800 Gallons your mel obtain from 100 to 105 Gollons of Rum and sometimes more. What remains in the Hillis collect returns and into be let out by a cock on the Book fort of the All it is a tun vinous for mant. To give hen the fermentation still anone add two or thme Ruchets full of the liquor made yesternday yesterday, if the permentation is backwould we may add a little yeart les of Wine or what will annae better a lettle founder of Joloff. Il Len the formentation proceeds too napidly it may hoheehed by ail dum or by milling the hole of the beitime with Soap . I hong shivit may be oblemed by distilling

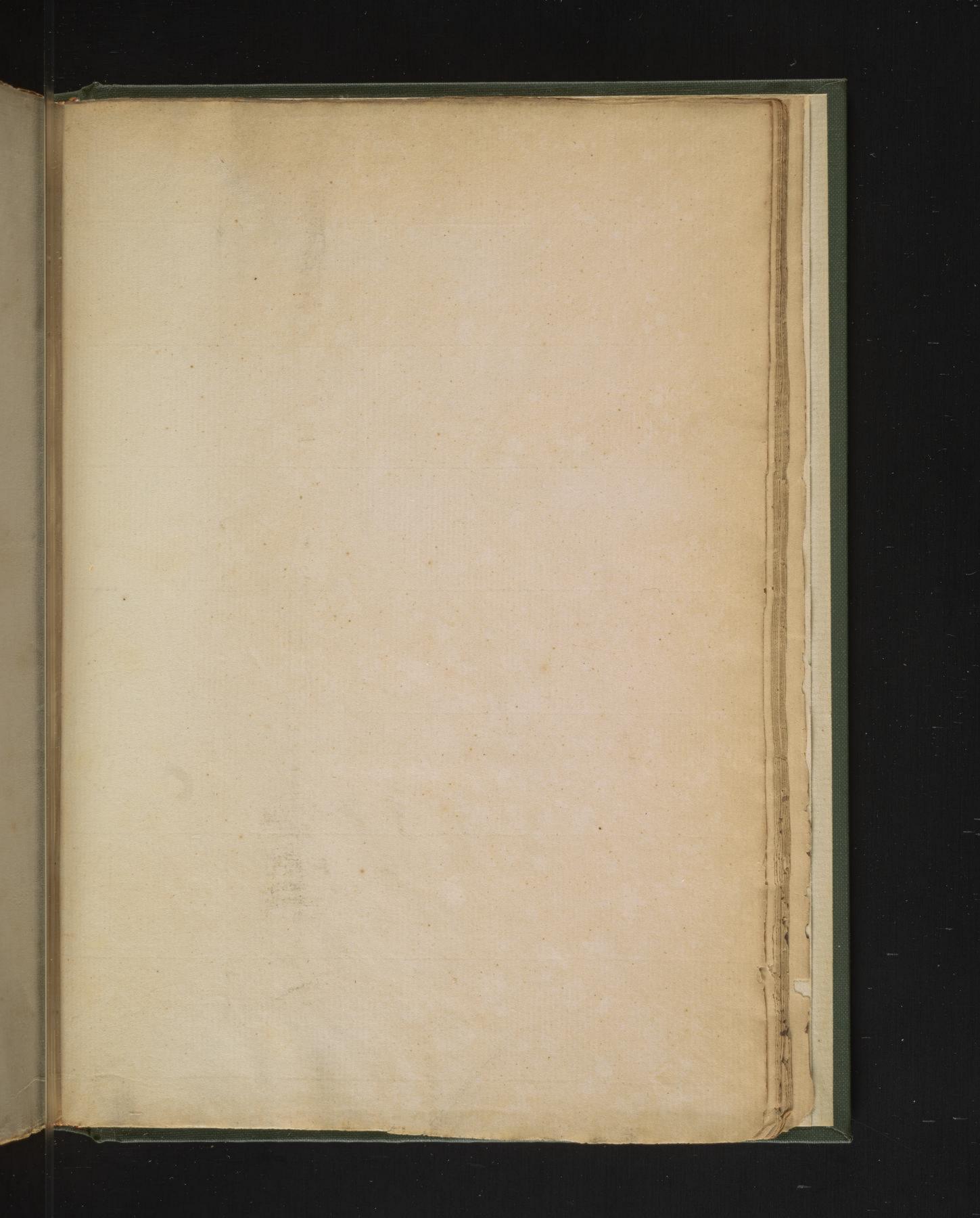
Nelop we will be a long to the second of the secon Lafrie the Enguer is then to be fort with the still middle secured and Coltain from 1000 to 100 Gellows exce a time in some for meant To prove him the province that their still and the or them there for the of the legion or and in squatering year case of Miles or wheat will aware heller a little

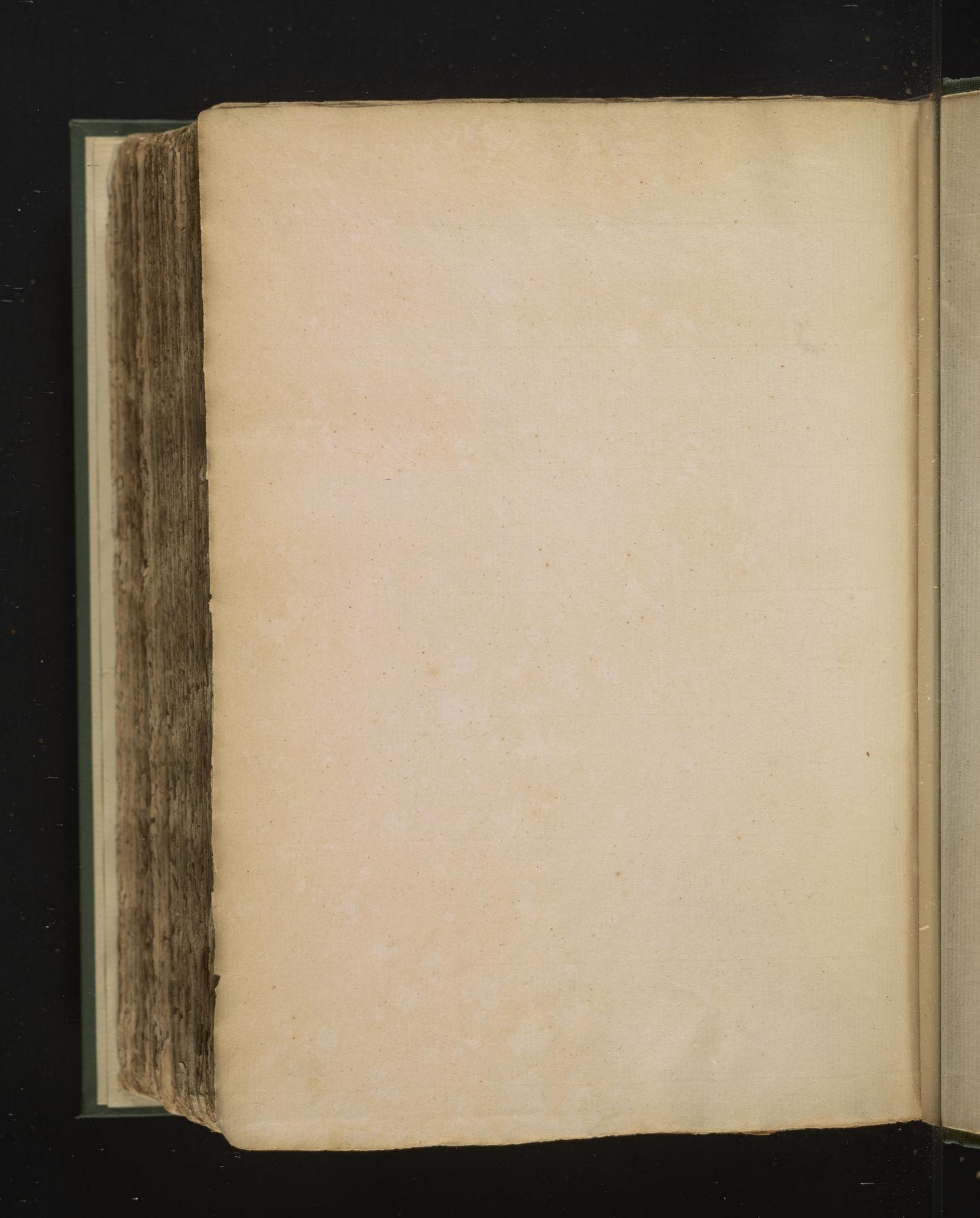
Jun two or three times. The best test of the Stringthe of Spirit is the thygros Vinegar may be made from any vegetable capable of undergoing the outous formentation. In England they make Kingger of Beer In France and Germany from wene and in this boun try most commonly from byder to a Barrel of byder weald agallon of Melafres. The accounty of venegos is enercound by Melapes or Tastor which is frequently called Wine Stone.

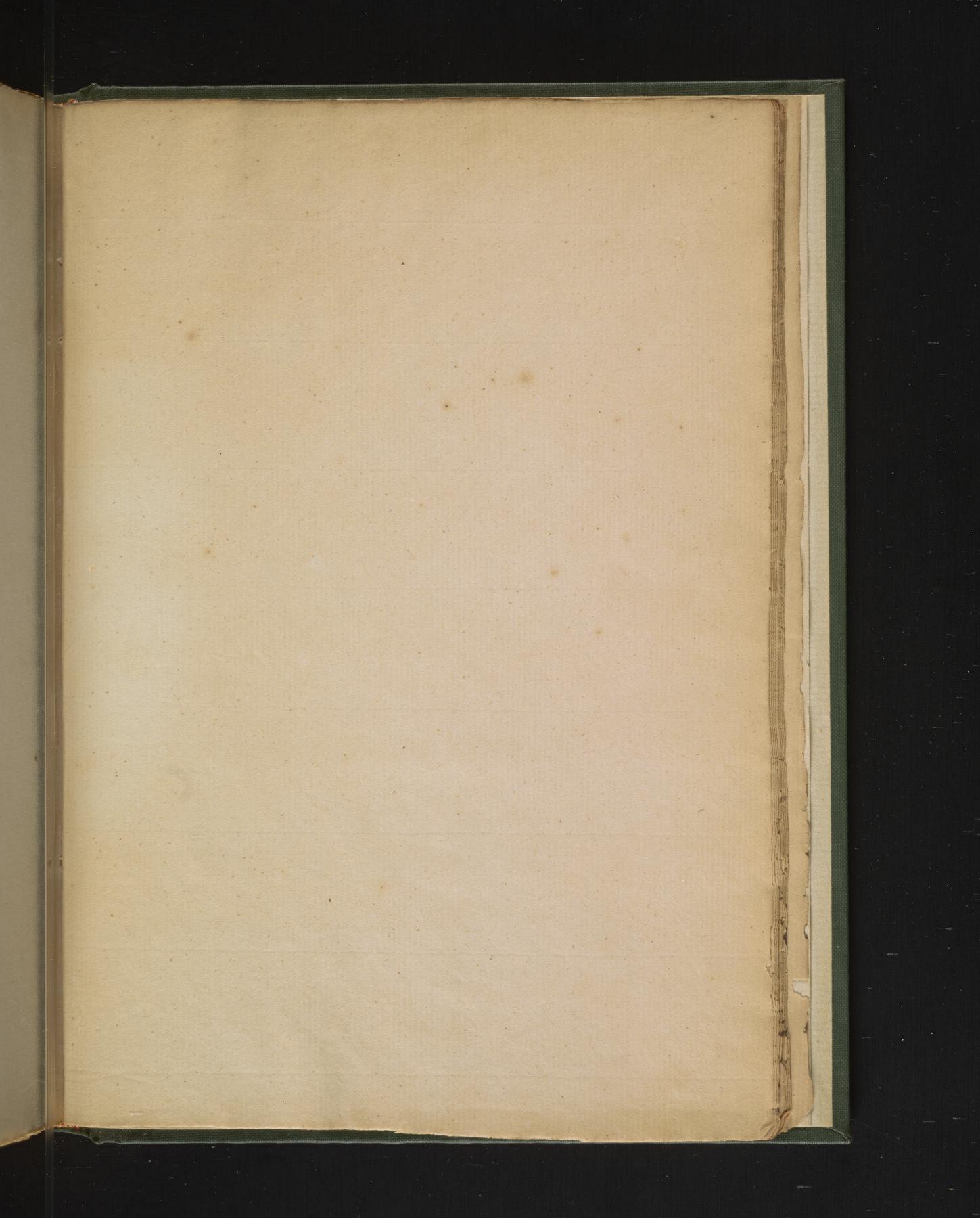


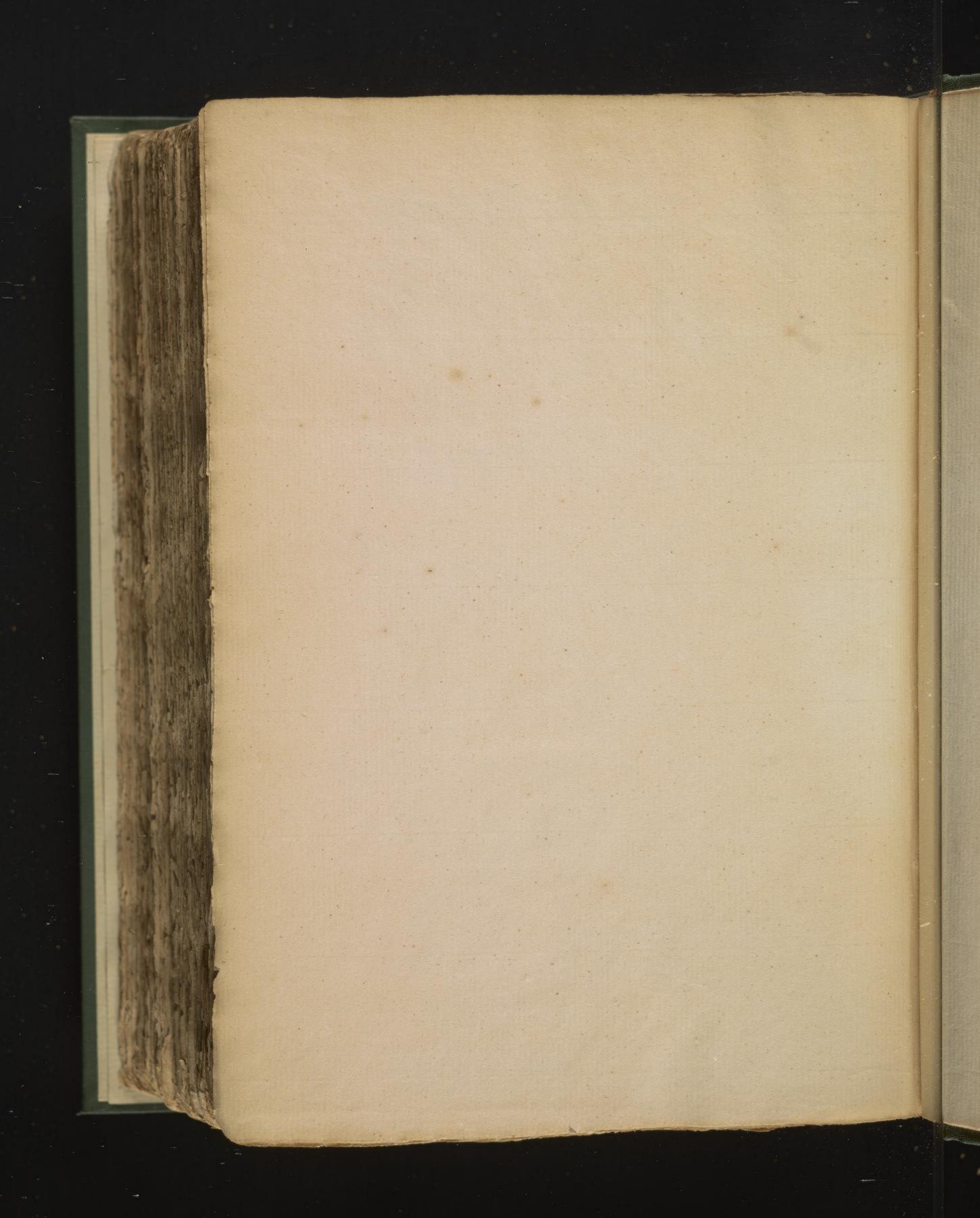


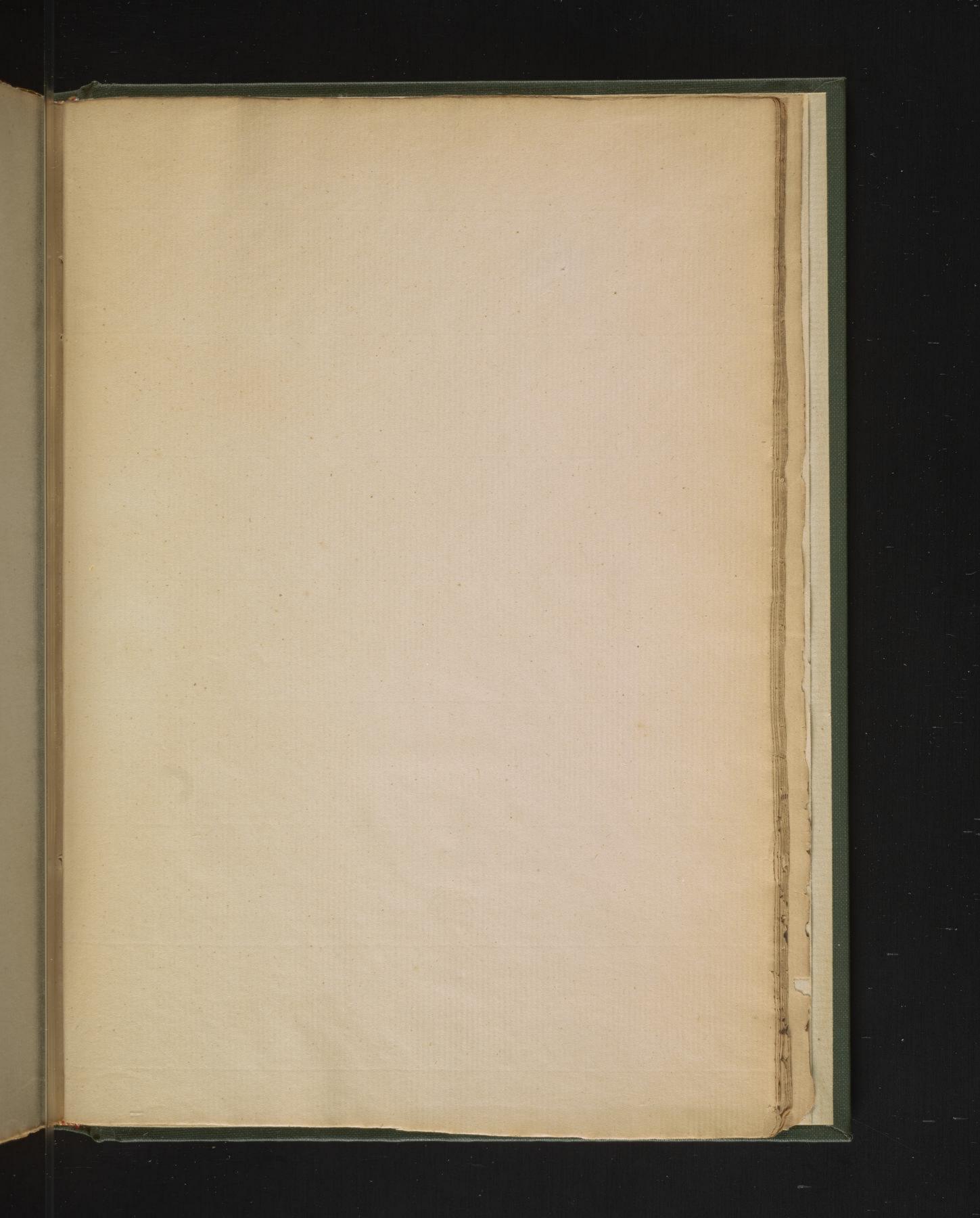


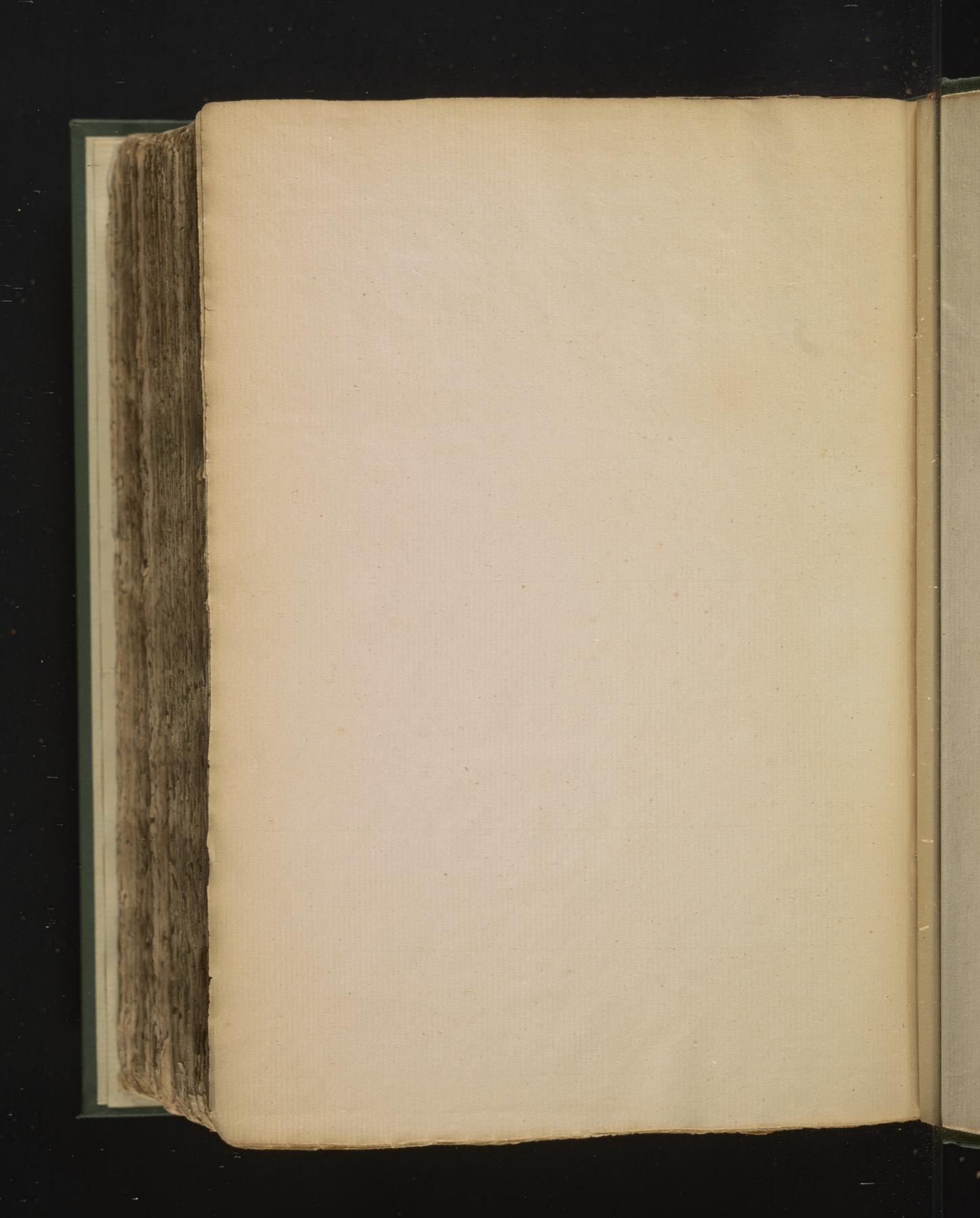


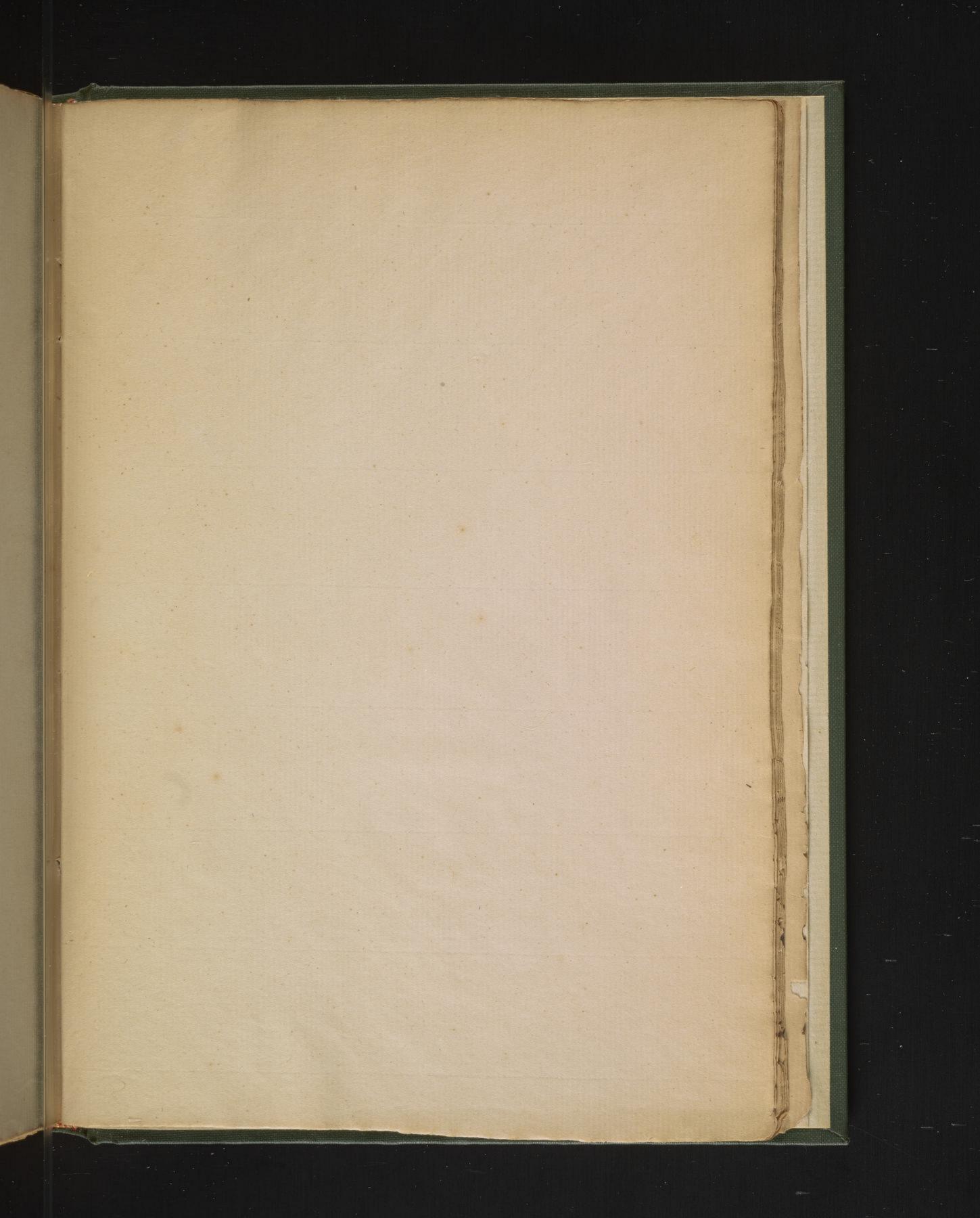


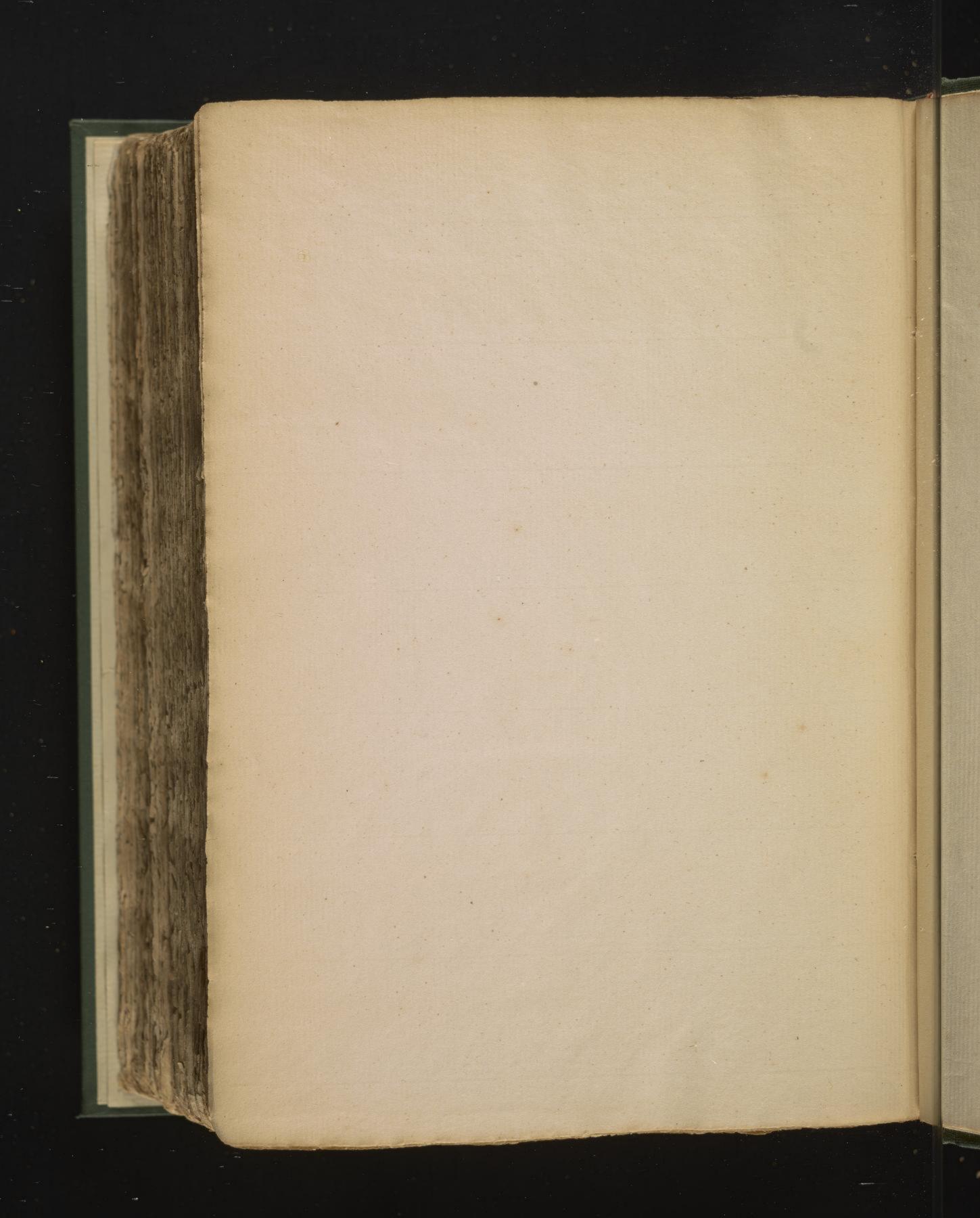


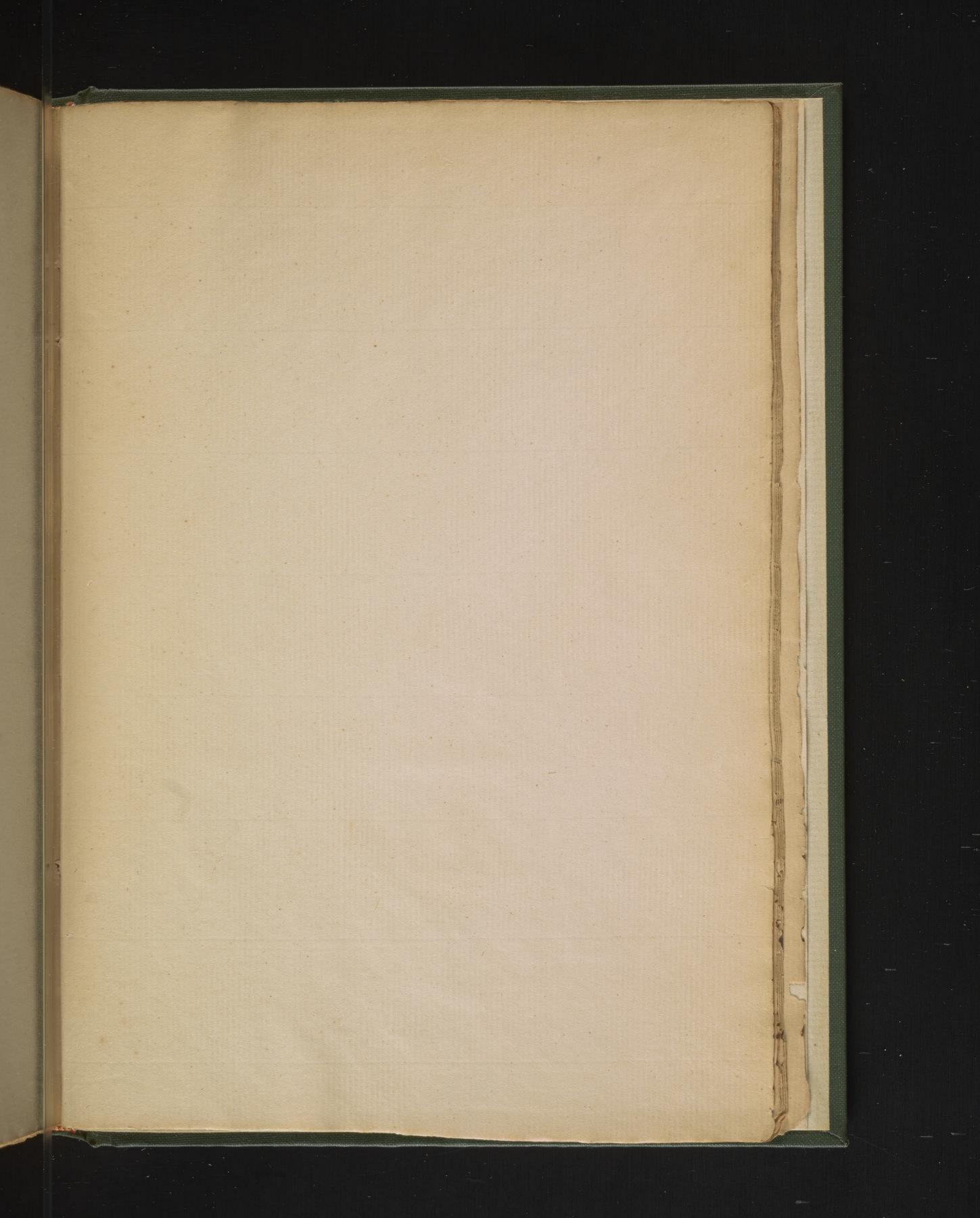


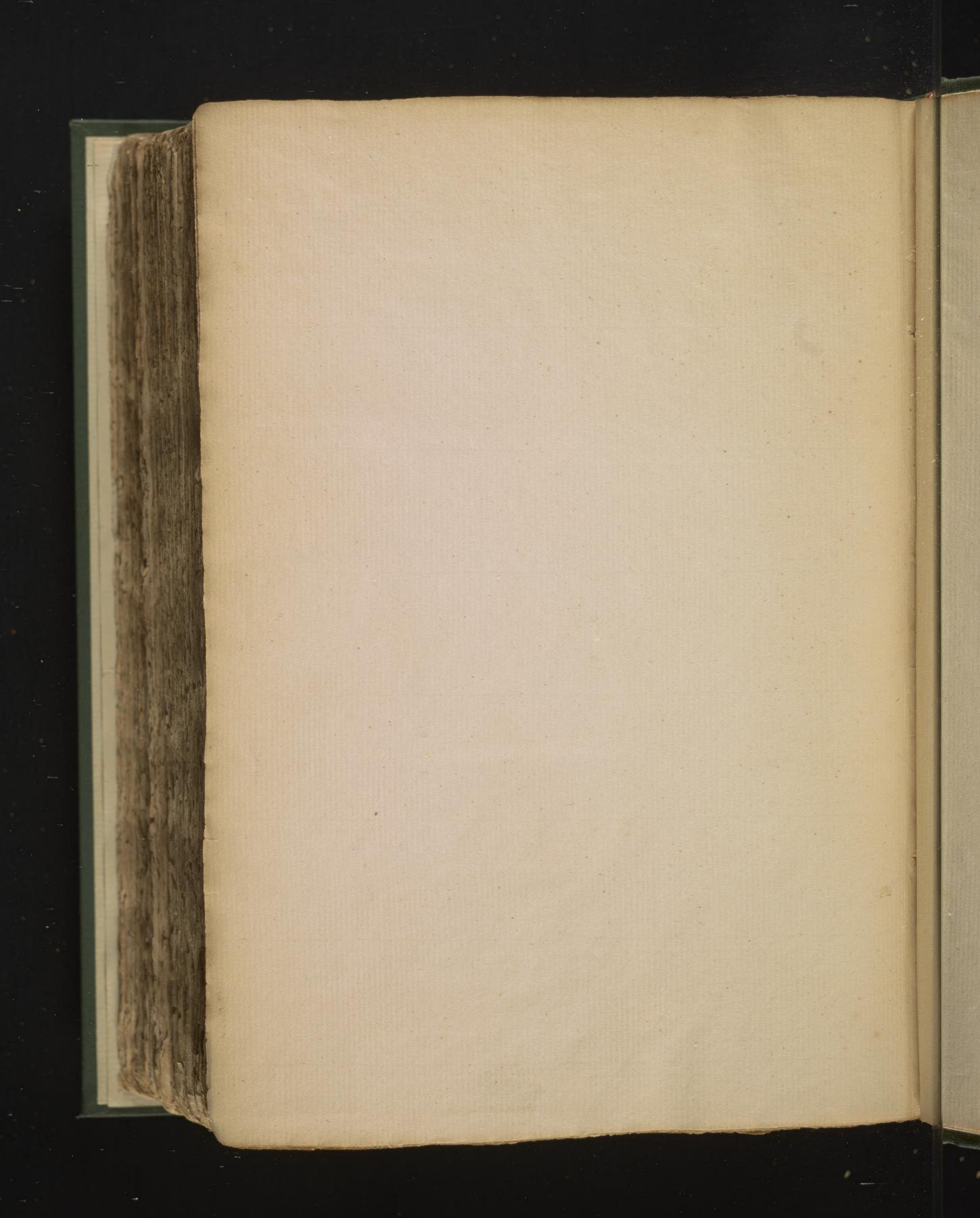


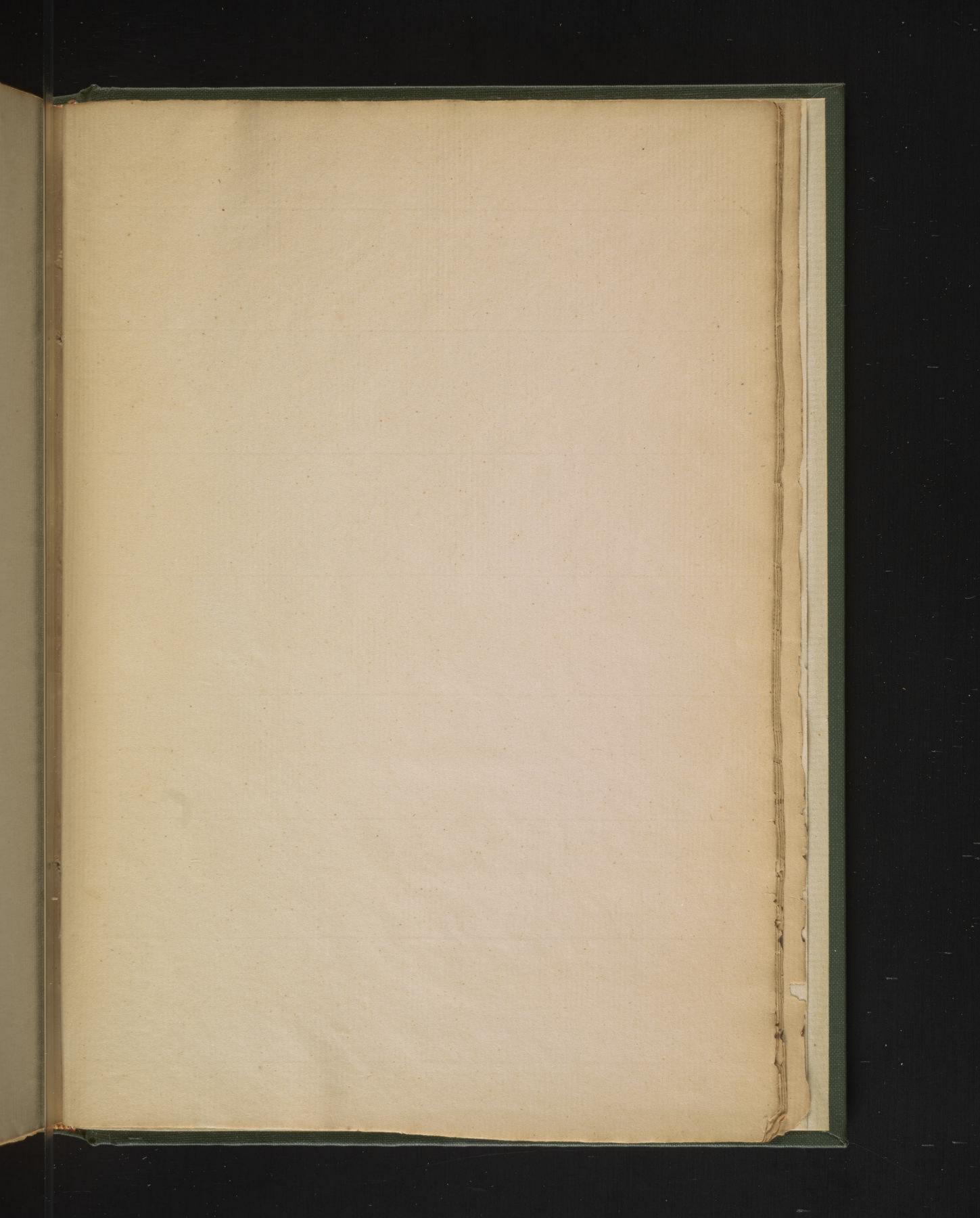


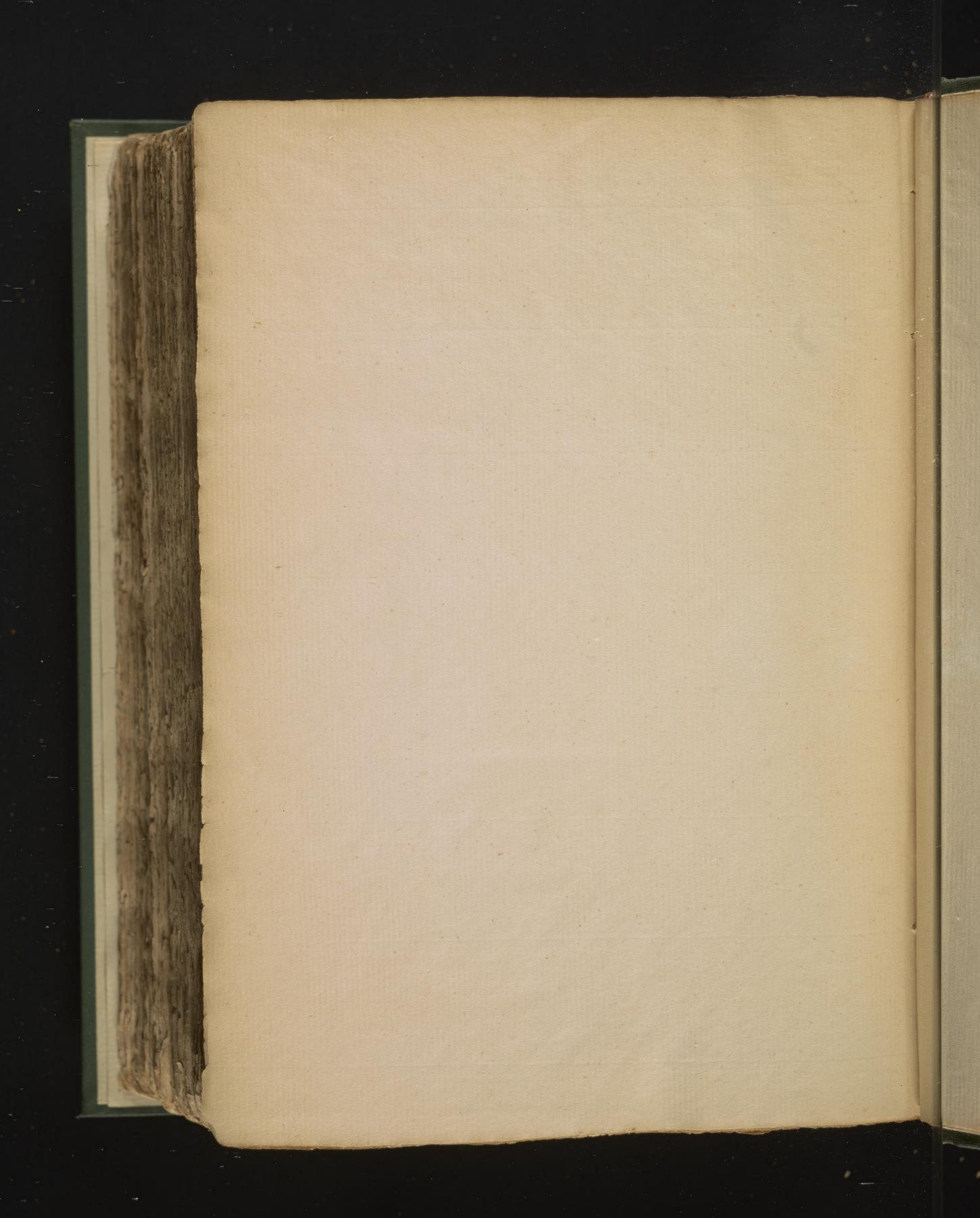




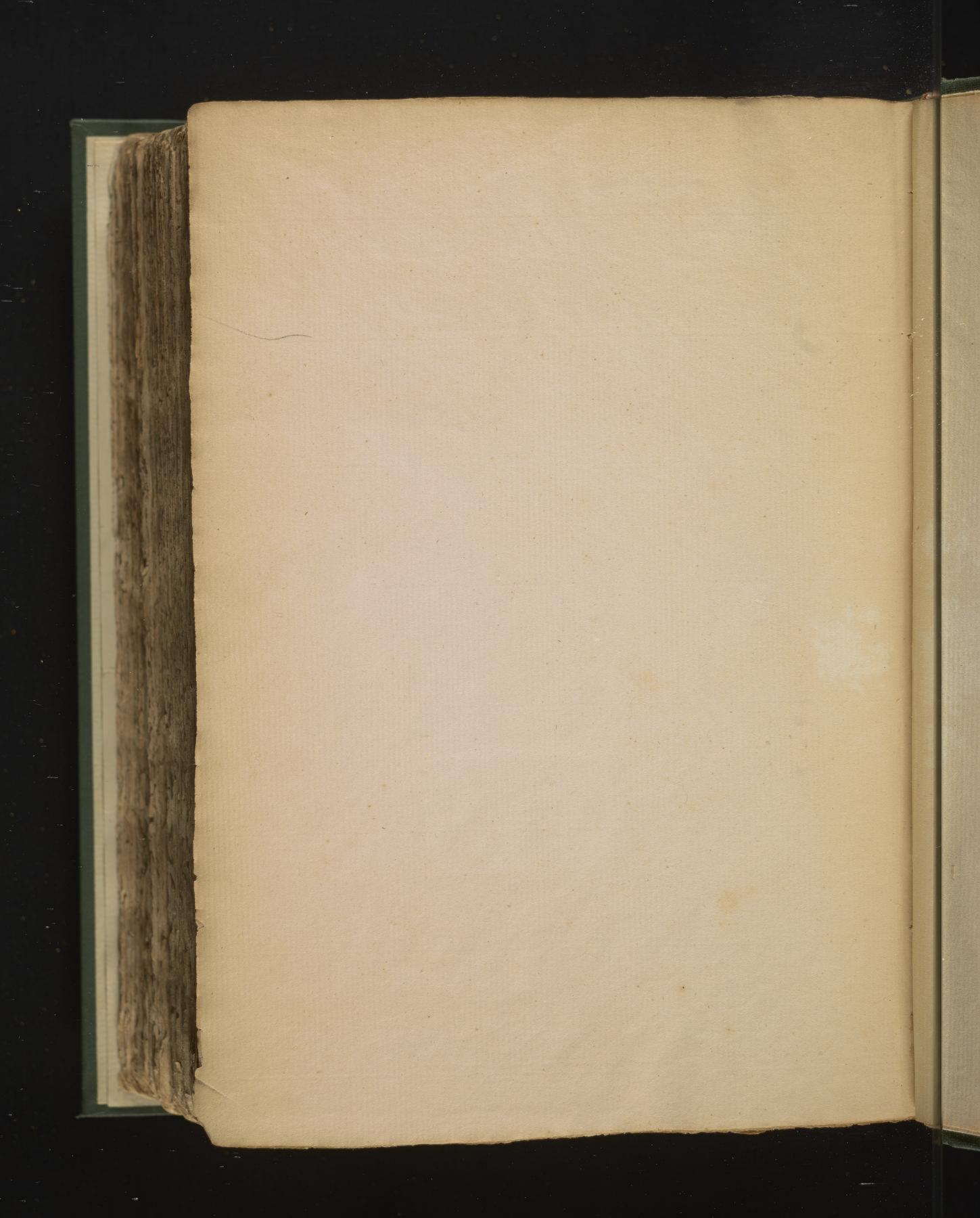


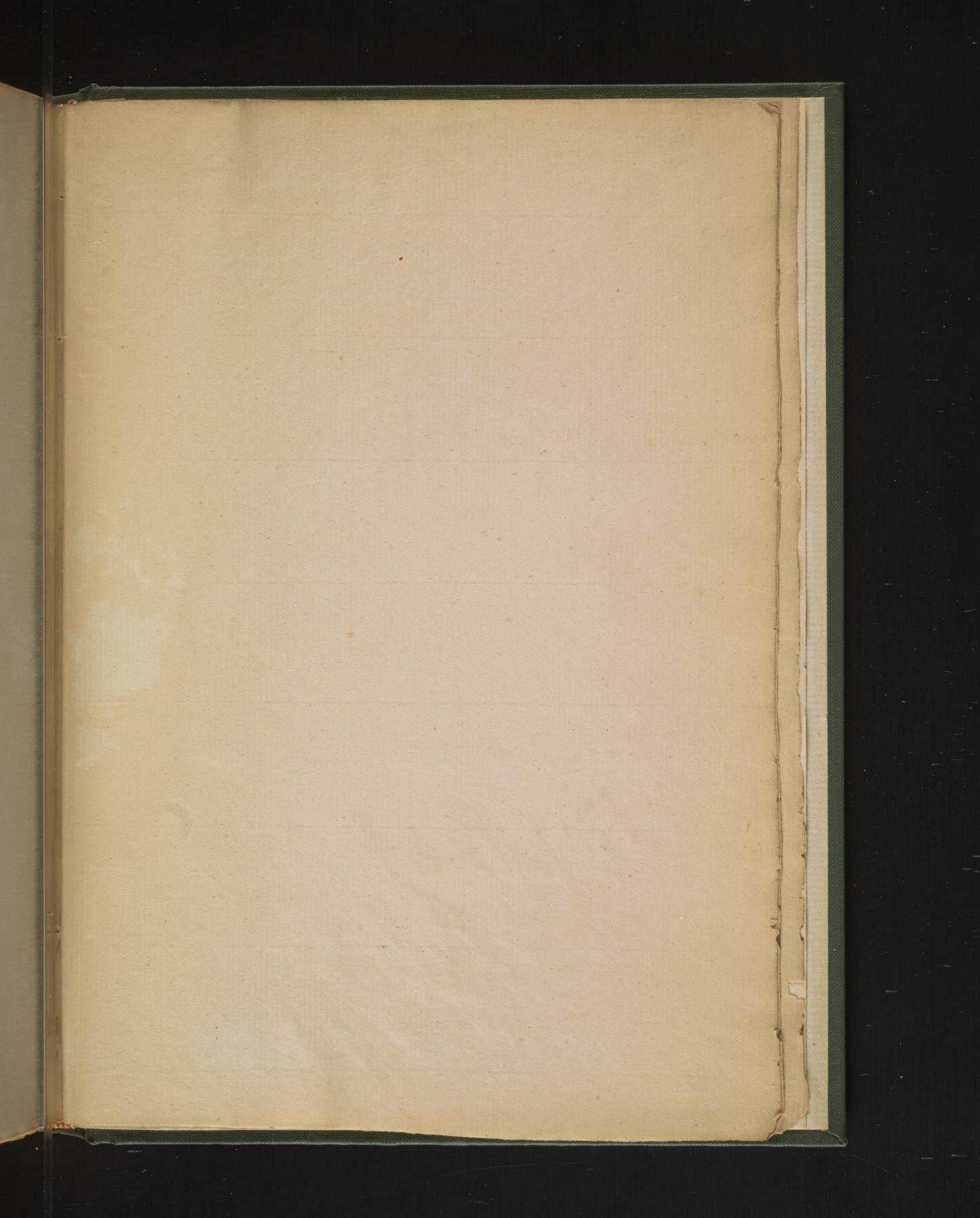


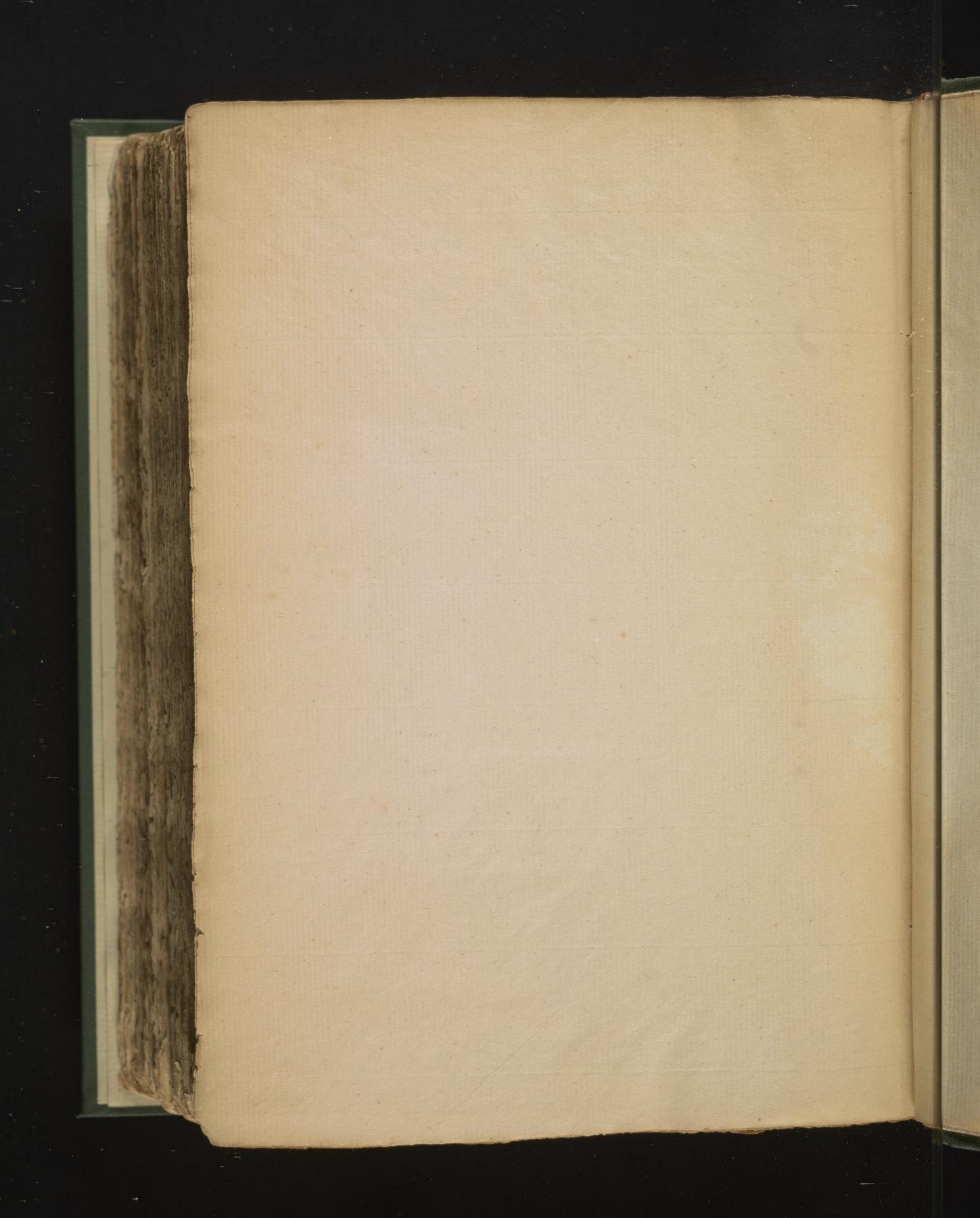


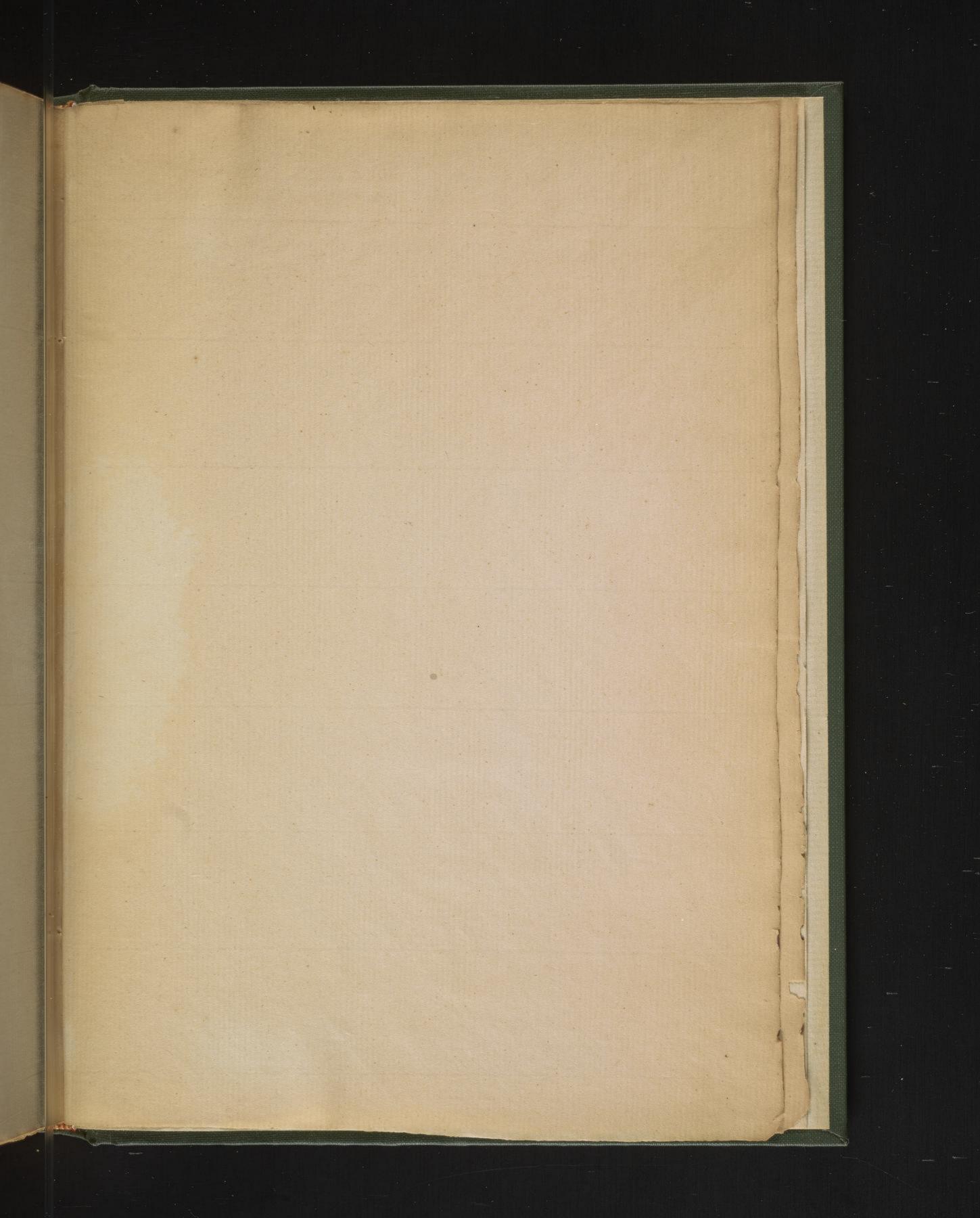


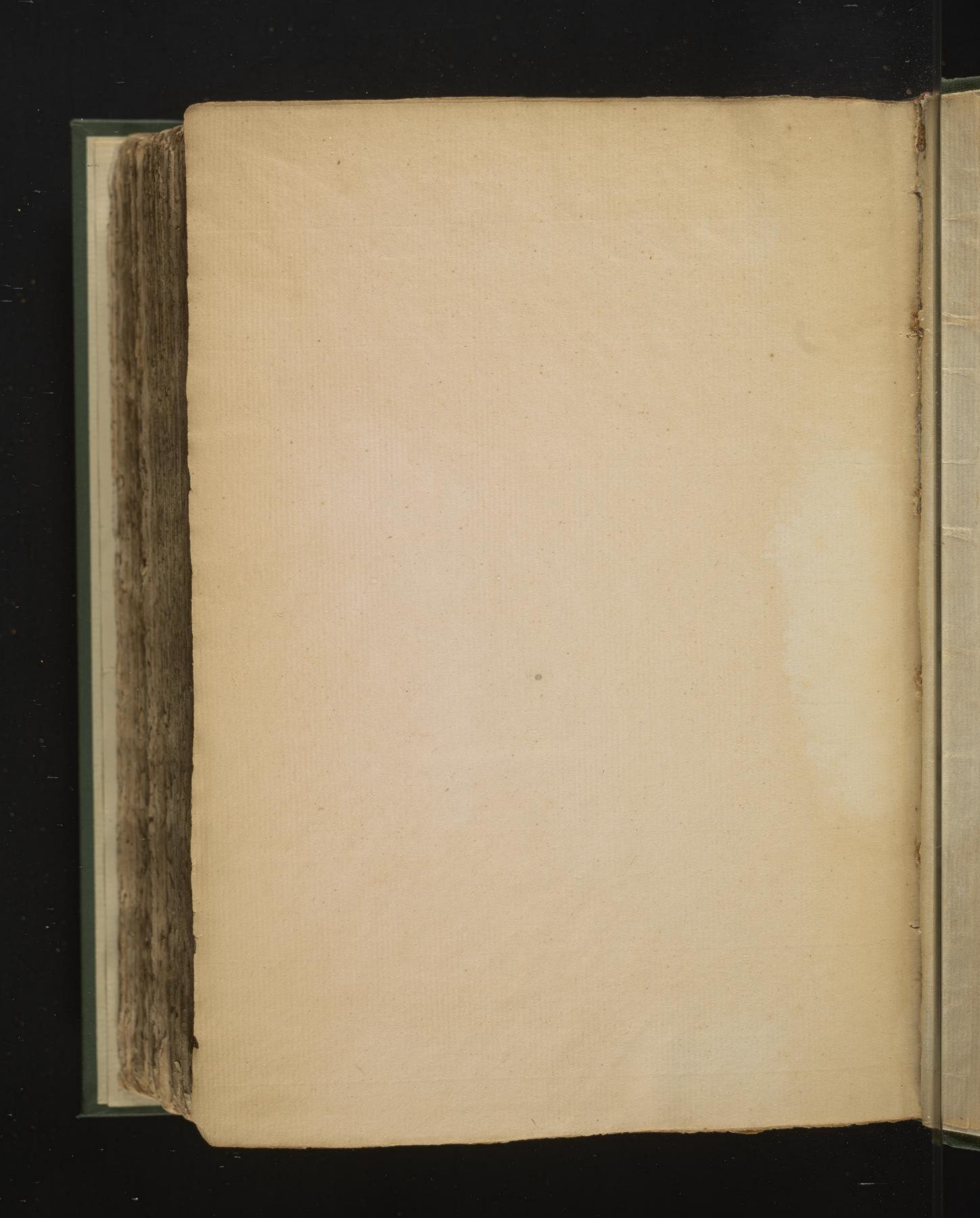


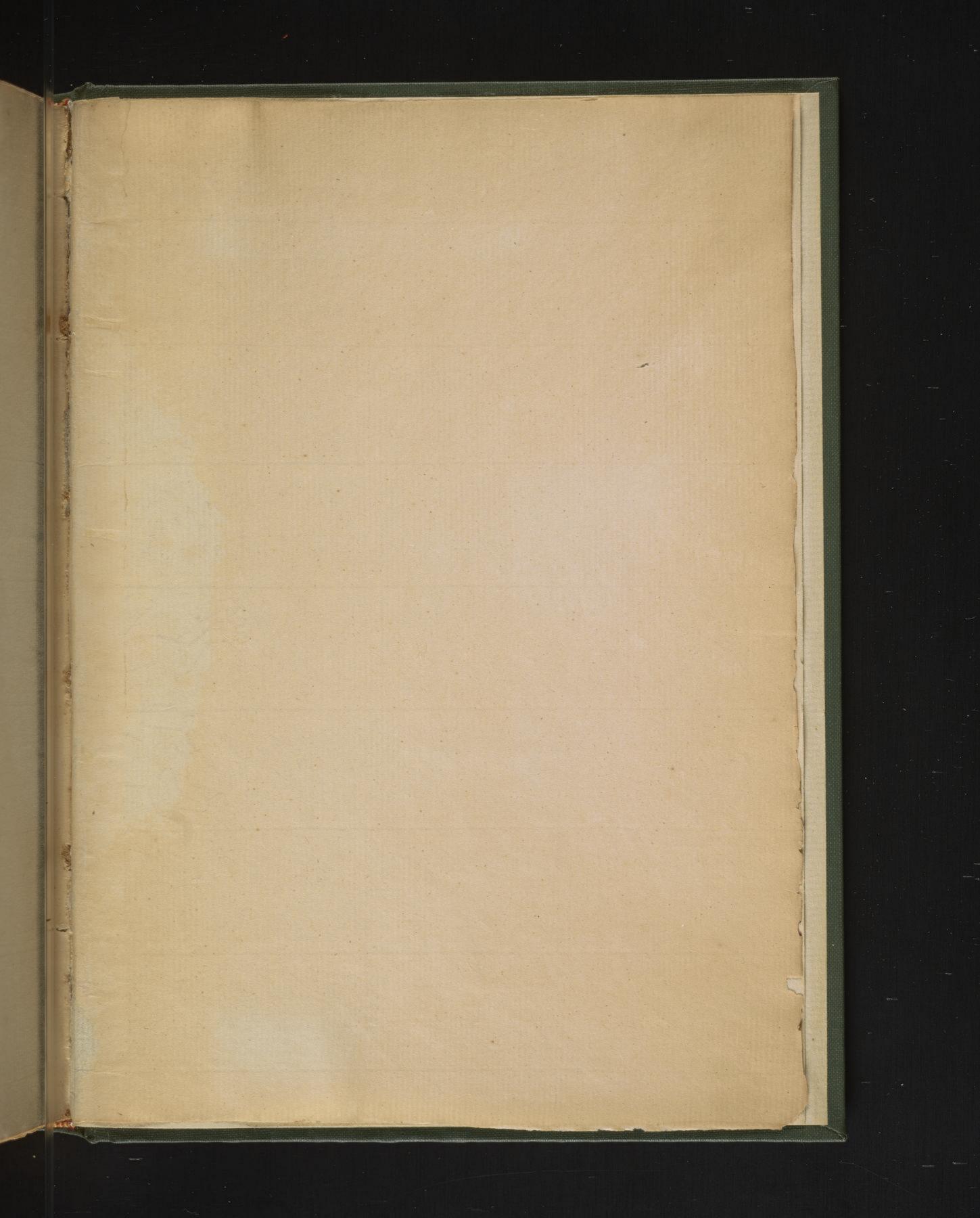


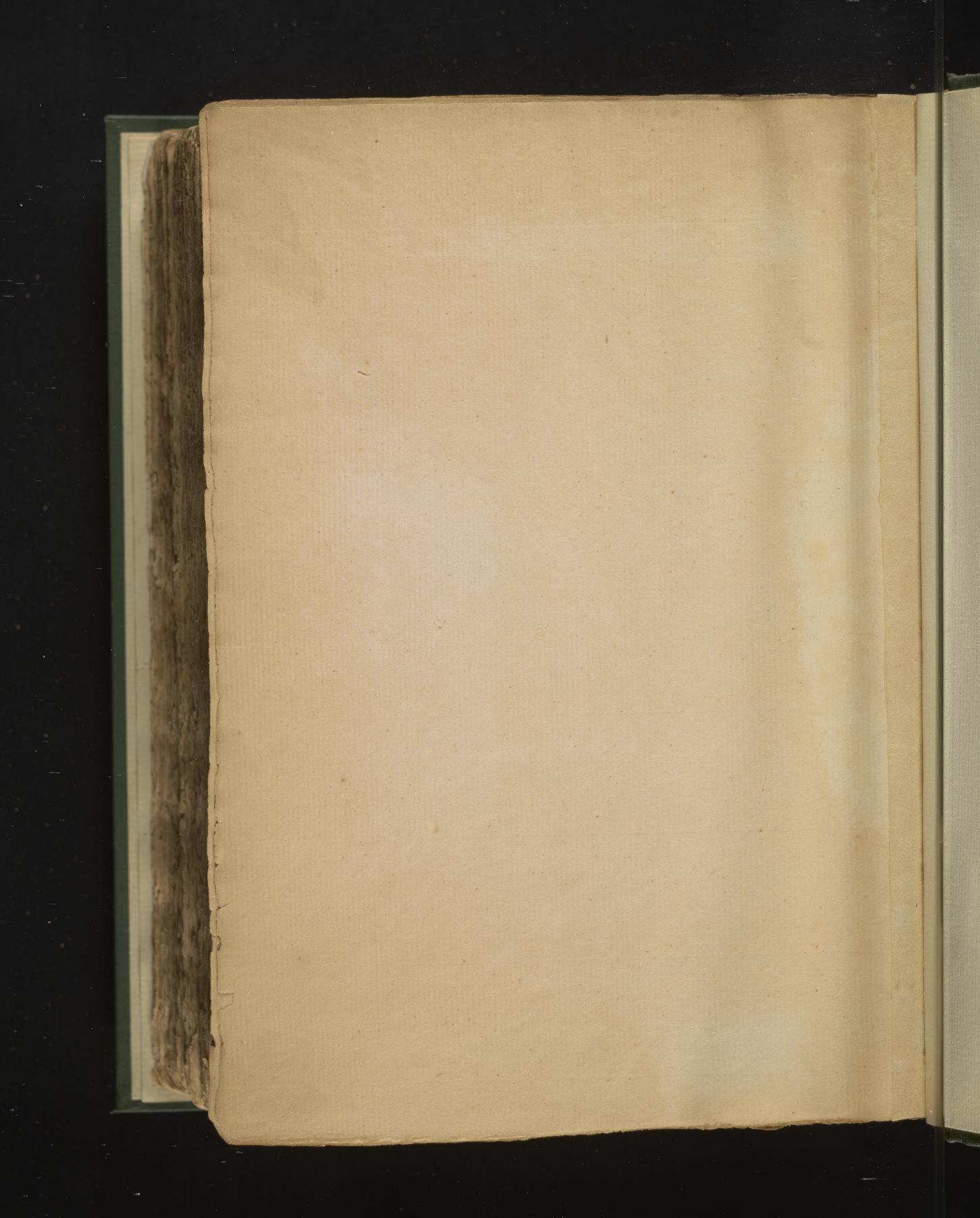




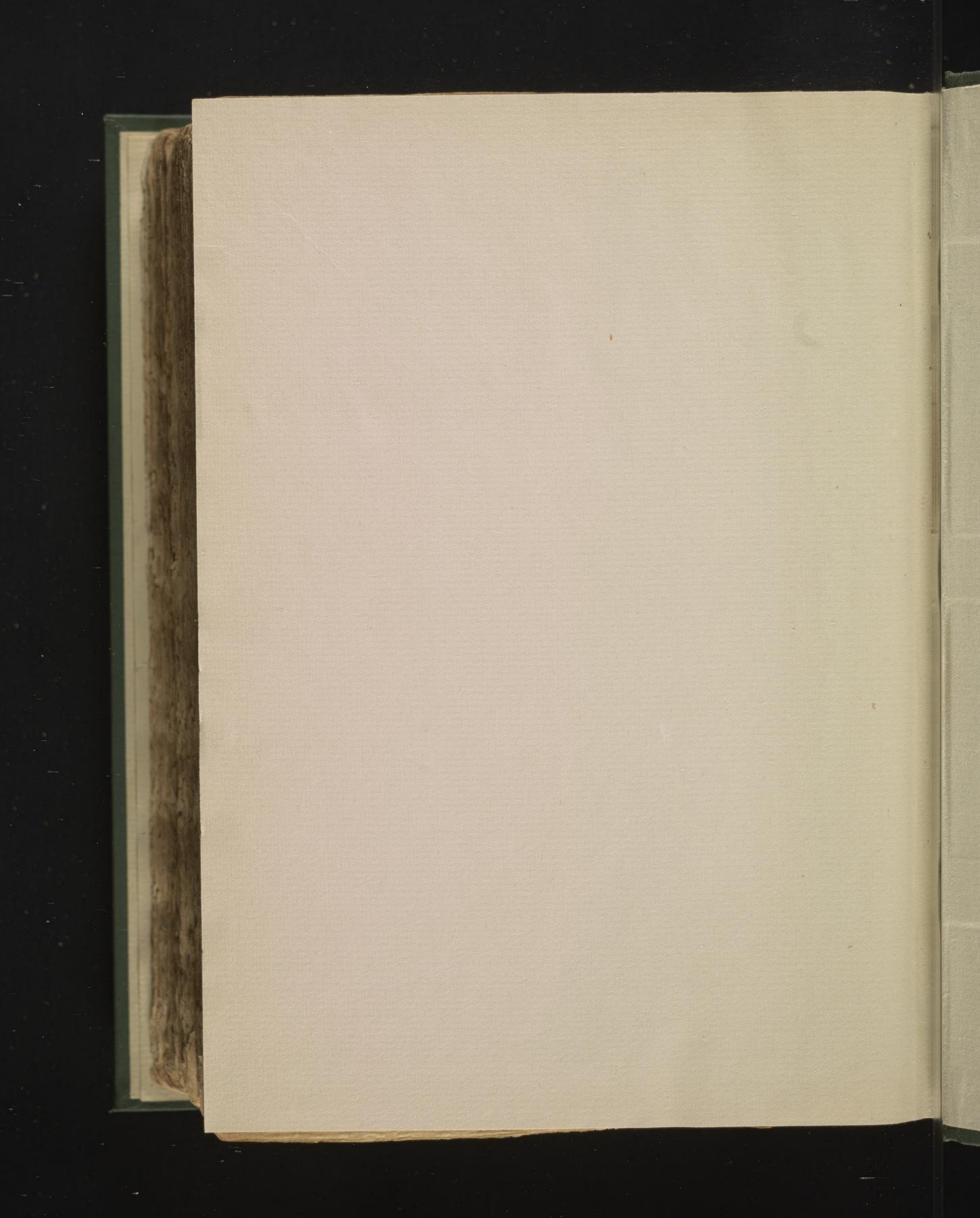


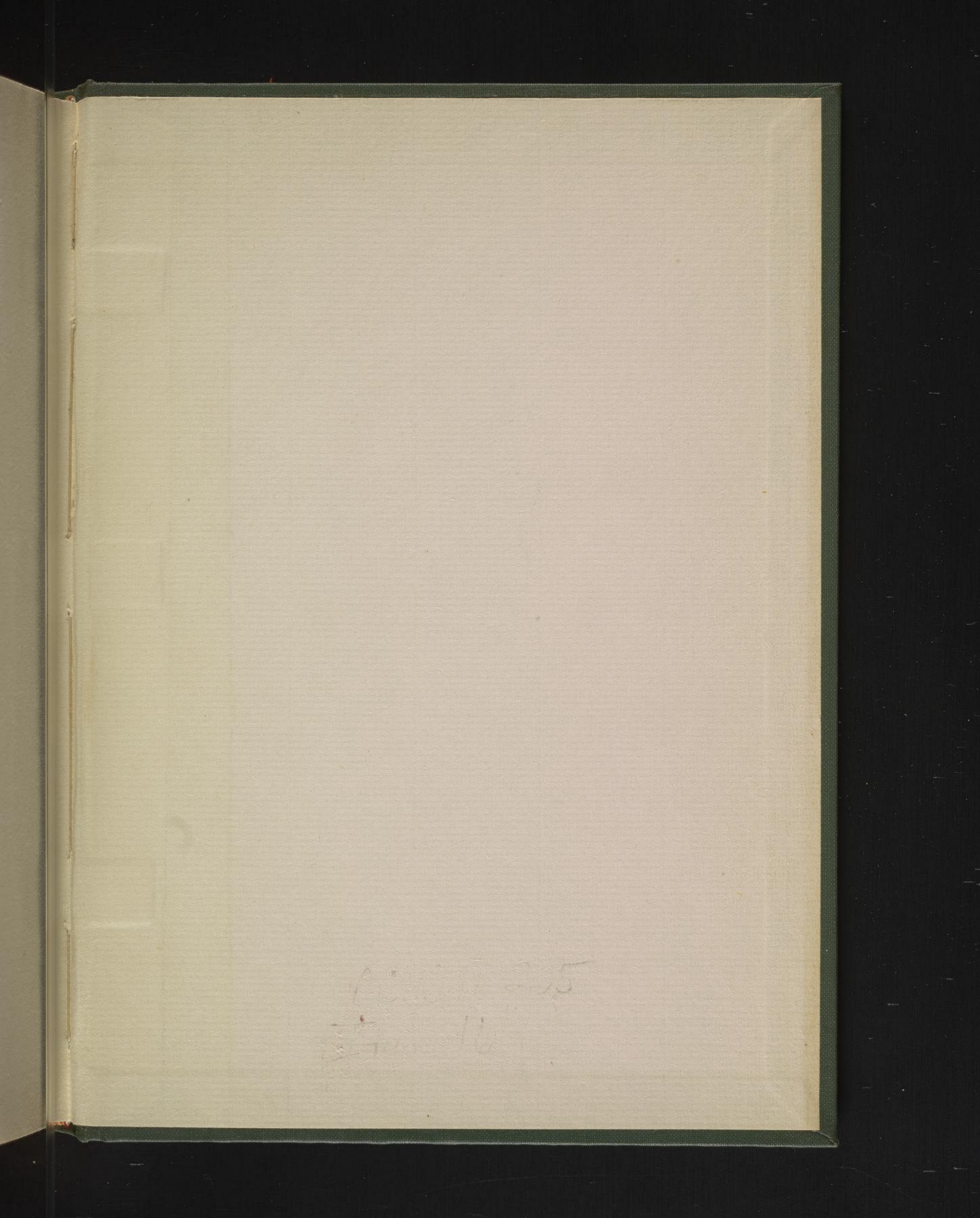


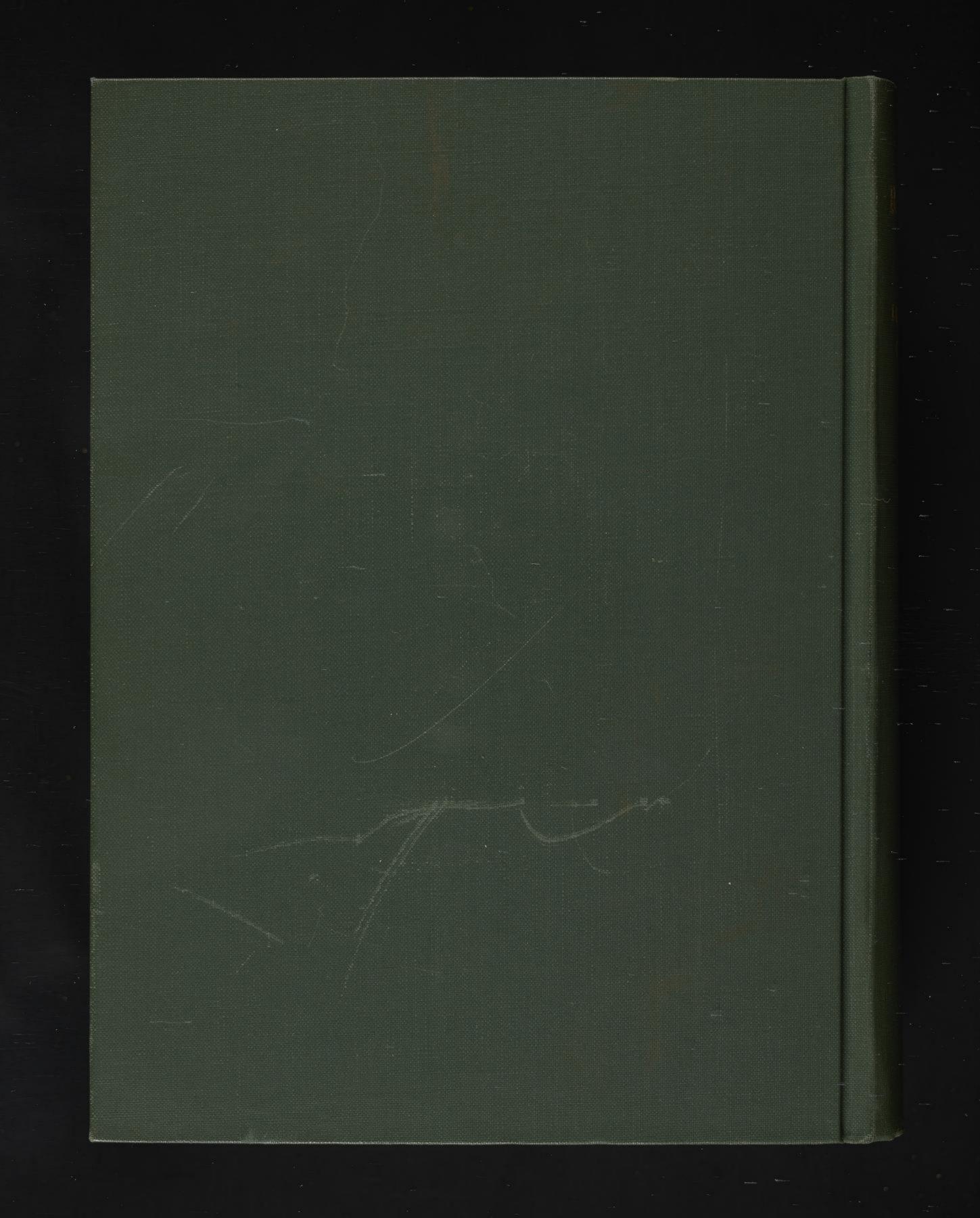




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